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**DESTRUCTION AND PRESERVATION**  
OF THE  
**TEETH,**  
AS CONNECTED WITH THE LAWS OF HEALTH,  
WITH FULL DESCRIPTION OF  
**LOW'S NEW METHOD,**  
**TREATING WITHOUT PLATE.**  
BY DR. J. E. LOW.

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BY DR. J. E. LOW

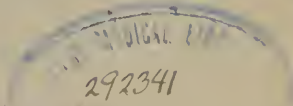
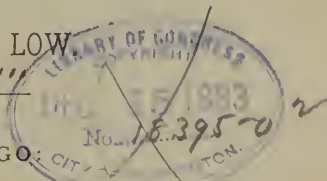
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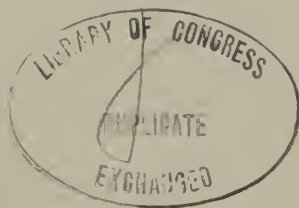
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J. E. Lott



## PREFACE.



The object of this work, with the exception of a description of Low's New Method (teeth without plate), is to bring before the reader the knowledge of those means by which the health and vigor of the constitution may be promoted. In doing so I wish to state that in many instances a repetition of statements have been made. This has not been done, however, without the writer's knowledge, but was intended to more fully bring before the mind the same result from various standpoints, that the impression upon the mind might be more indelible. That the economy of health has from the earliest history of civilization been too much neglected, is apparent; yet in all classes of society thousands daily incur the risk of losing health and even life by gratifying their appetites, passions and desires, and many times, too, by over-indulgences; and this from their ignorance or misconception of natural laws, the means by which all life is perpetuated in its fullness. That it is the use and not the abuse of those things essential to man's existence and happiness, most people do not seem to comprehend. If I have failed to make these facts visible to the general reader, it is from a lack of ability to do so; for I will assure you the utmost effort has been exerted to plainly represent these conditions and that is what I claim for this work—the original manner of presenting established facts in a way to be understood. As a whole there are, however, many conclusions drawn which may or may not be new. Let this be as it may, I have carefully measured its correctness before presenting them. That I may not have made some mistakes, is not a supposable case. Remember “to err is human.”



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## INTRODUCTORY.



In presenting this work to the public, I have tried to bring within its pages those points of interest that, in my judgment, will be of most practical benefit to the general public. While I hope to obtain the approbation of all in the Dental and Medical profession, it is proper to say that this book has not been written for their benefit or instruction. There are extensive volumes written by able authors devoted exclusively to the professions; but to the general reader they are of little use, both on account of their cost and their technical character. The object of this book is to so far divest the subject of technicalities that any person of ordinary comprehension may read, understand, and profit thereby. If I have succeeded in arranging these few practical thoughts so that they may be beneficial to my fellow-beings, I shall feel well repaid for my efforts. I do not profess all the knowledge upon this subject, for we are all of us but students, and the best of us know too little of what is yet to be learned. All I claim is that I have been a hard student for the last twenty-five years, always willing to receive and give all the information possible from those with whom I have come in contact. My main object and study has been to get at facts as near as possible, and thus trace the relations between causes and effects. What little I have acquired in this way I am willing to impart to others, hoping that I shall receive at least the approbation of all intelligent and thinking people.

J. E. LOW.



## To Customers.

Having been called upon as a dentist to assist in the preservation of your teeth, and believing you desirous of knowing the conditions most necessary for carrying this into effect, I consider it my duty to point out some of the most important, not only that you may know why your teeth decay, but that through your knowledge you may be induced to give them the attention necessary, that by our united labor success may crown our efforts, since without this attention on your part the most skillful operation may prove a failure.

Most people seem to think that if they have their teeth filled they have done all that is necessary, and from this neglect the result upon the teeth is too often charged to the inability of the dentist. Admitting that people are many times imposed upon by men in the profession, who care nothing for the preservation of the teeth, but only for the money they receive, we do not dispute that in such a case the charge might be just. Notwithstanding this fact there are dentists who, after being trusted with the responsibility of preserving the teeth, feel as much interested in carrying this into effect as yourself. While they expect pay for their services, they in return feel duty bound to give you value received. In most cases where imposition occurs, the patients themselves are to blame. Why? Simply because they have patronized a dentist of whom

they knew nothing except his own statement, issued in a flaming advertisement, offering great inducements, telling the great things he can do at such wonderfully low figures. This is the best evidence of his inability to perform skillful operations ; for a dentist capable and willing to do all in his power for the benefit of his customers will not be troubled any great length of time to find ample employment at prices that will pay him liberally for his services. There are cases, no doubt, where the thorough, conscientious dentist is excusable for doing work much cheaper than he can afford. If there is any excuse it would be in the case of a dentist without friends or money, just starting in his profession. A man with starvation staring him in the face is excusable for a certain length of time ; but if he has the ability and skill required to make a first-class operator and mechanical dentist combined, he is bound to command the respect of the better class of people, who are willing to pay a reasonable price for his valuable services. I feel it my duty to call attention to the great injury resulting from the bungling work of unqualified and unprincipled dentists. Very many people not only lose their teeth, but become the victims of diseases contracted by improper treatment. Without mentioning these in detail, it is sufficient to say that hundreds of people are suffering from the effect. They have deranged stomachs, diseased gums, loose teeth, and a sympathetic combination of difficulties. There



are other difficulties arising from over-doses of arsenic used in destroying the nerves of teeth, causing facial paralysis of the nerves. It would be impossible for me to do this part of my subject justice should I undertake to picture the various consequences arising from the causes spoken of. As we pass through all the various grades of life we see people who are otherwise intelligent, sadly deficient in the proper appreciation of this subject.

When we take into consideration the relations of our teeth to the whole animal economy, connected as they are, sympathetically, with the whole organism, surrounded with the bones of the face, nerves, muscles, veins, arteries, ligaments, glands, and the mucous membrane, we can very readily understand why so many people suffer protracted derangements of health, which receive their origin in the dental organs.

As the body is a unit, so to speak, knit together by the closest bonds, pervaded by a system of blood-vessels and nerves, directed by one intelligence, and kept in continued relation of functions, and expression by one all-pervading law of reciprocal relation and sympathy, and as diseases of other parts of the body are capable of affecting the teeth, is it not reasonable that the morbid conditions of the teeth may produce corresponding results in other parts of the body, involving the whole system, producing disease and even death? These facts

very seldom occur to the practicing physician, whose duty it is to study causes and effects.

People groan with aches and pains in various parts of the body, and visit the doctor, with disease of the gums, disease of the jaw, alveolar abscesses, with accumulation of tartar under the gums, decayed and broken teeth, exposed nerves, and many other difficulties caused by neglect of giving these organs proper attention, each one of which is sufficient to derange the whole system. Medicine is given to relieve the difficulty, while the real cause remains. The relief is merely temporary, and the disease returns in full force after the effect of the medicine is gone. Dr. Castle, in his article on Dento-Neuralgia, in illustrating the sympathetic connection of the whole nerve system, shows how often people suffer from diseases of the mouth in other and remote parts of the body. He says:

“I could cite many cases in which patients for years have been subjected to the most harassing and distressing treatment: narcotic, stimulant, sedative, irritants and counter-irritants, nervines, carbonates, phosphates, acids, alkalies, tonics, iron, arsenic, mercury, quinine, phlebotomy, cupping and leeching, drastic alteratives and aperients, cold and warm sulphur vapors, Turkish baths and sea bathing, Sharon and other springs, electricity, the knife, the excision of the nerve, Homœopathy, Hydropathy, Mesmerism, Spiritualism and Clairvoyance. These and all sorts of quack medicines

have, in their turn, promised to effect a certain cure. If the wretched sufferers have had vital force enough to endure and withstand these dreadful assaults upon their poor, frail citadels of flesh and blood, so wonderfully made, and so resistingly combined it has been to sink into a state of apathetic melancholy or hopeless despair. In many instances the tortured patient at last has been relieved and cured of his misery by the removal or proper treatment of diseased wisdom teeth, or fangs hidden beneath the gums."

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### **No Appreciation of the Teeth.**

Some people have no appreciation of the value of their teeth, but leave them to decay without an effort to preserve them. If spoken to by those who have more knowledge upon this subject than themselves, and can appreciate the necessity of preserving their teeth, the reply is, "I am going to let them decay and have them extracted and get a new set;" or, they do not believe in having teeth filled. Some great aunt of theirs, or some other connection or acquaintance, had their teeth filled and the filling all came out. This was probably done by some one who did not know the first principles of filling teeth, and this is a test case with them and their generation. Others are so afraid of being hurt they would rather have their teeth extracted than have them filled if they could be

made to last a lifetime. Poor, delicate creatures ! they ought to live in a tropical climate where no efforts are required to live, move, and have a being ; where nature furnishes food in abundance, and no effort would be needed to keep them in clothing. Excuse me for making these harsh remarks ; for I know there are people so constituted that it requires a great effort to pass through an operation of this kind, but that is no excuse for not having it done. You are well aware that there is nothing worth having among a civilized people, that can be had without a struggle and more or less inconvenience and pain. The bright and glittering diamonds and all our mineral wealth lies buried in the earth, and our eyes would never behold the glittering gems should we fold our arms in dread of the terrible task of finding where they are, and the labor of bringing them to the surface. This life is a battle-field, and he who would win the battle must be up and doing. Our pickets are on duty to give the alarm of danger. Your pickets will be your knowledge of the conditions that will give health and strength to all the organs of your body. If you would enjoy this life, you must be ready to act, never shrinking from the duty you owe to yourself. If you have been unfortunate enough to inherit diseases in all or part of your organism, you must be ready and willing to do everything in your power that will restore the diseased organs to health, or if not restore, at least arrest the entire destruction of the organs affected.

There is no great reason why people should dread the pain of filling their teeth. It is by neglecting them, as a general rule, until the cavity becomes quite large, that makes them so tender ; but if attended to in proper time by a careful dentist, there is no reason for dreading such an operation. Then why should you neglect these priceless gems which are of so much importance as regards our general health? for if we expect health and strength we cannot neglect the mastication of our food. If you lose them, do you expect that your dentist is going to outdo Nature herself? If so, how sadly disappointed you will be after it is too late. No one can better appreciate the benefit derived from the use of artificial teeth, where they have been so unfortunate as to lose their natural ones, than myself, even though the wonderful substitute may be so beautifully and perfectly adapted to the mouth as to deceive, many times, the critical observer. This we can appreciate and understand under the circumstances spoken of, when people can do no better and are obliged to resort to substituted teeth ; but why persons of common sense can be so thoughtless as to neglect their natural teeth, and think nothing of exchanging a part of their being for a mechanical substitute, is beyond my comprehension ; when, if they would keep their teeth in proper order, but little effort would be required to keep them a lifetime, as with the present knowledge all teeth can be saved. Could you not afford to

visit a dentist twice a year, if necessary, and perhaps have two or three teeth filled to save these precious gems, even if it does cost you some unpleasant sensations? In the end you will feel well repaid for your efforts in trying to save your teeth. If you will give this subject more of your attention, you will see some of the many objections to this shiftless, easy, don't-care, negligent system.

A French physician once said, in speaking of the influence of the natural teeth as regards the expression and general appearance of the face: "No woman can be ugly who has fine teeth. In one sense this is true; for certainly, teeth, if kept clean and white, beautify the face more than any of the other features. Not only this, but the face is kept in its natural shape, the lips round and full. Take out the teeth and the natural shape of the lips can never be fully restored by the most skillful and artistic dentist. If you lose these two attractions of the face, however handsome you may be otherwise, your real beauty is gone. Dio Lewis, in speaking of the beauties of the teeth, says:

"I really don't blame the girls for talking on the street with their mouths wide open; for, although sometimes they may not speak quite so plainly, they do show their teeth to advantage, and especially when they give one of these little short open-mouthed laughs, now so common among girls, in which they open them so wide that you can see the entire thirty-two teeth. I do not blame them, for a.

mouthful of pearls is very beautiful. I don't care what the nose and eyes may be if the mouth shows complete rows of brilliant gems that face is a fine one,—a sweet, wholesome one, which, no matter how fine the eyes and nose, if the mouth shows decayed, blackened teeth, that face cannot be a fine one,—it is not sweet and wholesome."

I have sometimes been obliged to believe the American people have become raving maniacs on this subject, so often have I been called upon to extract teeth that with a little repair would be as good as ever, or nearly so, and much better than any artificial substitute, and less expensive than a respectable set of artificial teeth, to say nothing of the painful operation of having them extracted.



## THE DECAY AND PRESERVATION OF THE TEETH, AS CONNECTED WITH THE LAWS OF HEALTH.

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In presenting this subject I will try and answer some of the many questions so often asked in regard to the decay of the teeth. \*

Its magnitude is such that it will be impossible to do it justice in the short space I have, and more especially should I dwell a sufficient length of time upon any one branch to illustrate causes and effects. I might speak of the various diseases of the maxillary or jaw, caused by decayed and defective teeth, or the various diseases of the nerves which so closely connect our teeth with the rest of the body, and give them life; each one of which would furnish material for a lecture. But as our time is limited we must satisfy ourselves with what might be termed a bird's-eye view of this subject, reaching as many points of interest as possible.

This subject though seldom brought before the public for investigation, is none the less important; in fact, its necessity has increased on this account; —important, not only on account of the suffering and injury to general health, but life itself is endangered to an alarming extent, and in some cases de-



stroyed, while deformity of the face is no uncommon occurrence.

Dentistry is claimed to be of ancient origin ; but we have no evidence that the teeth decayed to the extent that they do at the present day, or that humanity suffered seriously from these causes. Although dentistry is claimed by many to be one of the lost arts, we think it can be safely said that never has man been so much afflicted with decay and loss of teeth as at the present time.

It is said by those best qualified to judge that decay and loss of the teeth are more prevalent in this country than elsewhere. However this may be, there are now employed in the United States between twelve and fifteen thousand dentists ; the great object of which is, or should be, to preserve the natural teeth. They use annually three tons of pure gold, and as much more of less valuable metal for this purpose. Ingenious and skillful have been the labors of many of these dentists. Notwithstanding this and the fact that so much money and skill have been used in trying to arrest the wholesale destruction of these valuable organs, it is estimated that twenty million teeth are extracted and three million sets of artificial teeth inserted annually in the United States. Not only this, but each rising generation increases the demand for more dentists, and teeth decay faster than ever before. Taking these facts into consideration, the first question for investigation is why our teeth decay

so much faster than in centuries past, and how shall we stop the frightful progress of their decay. This is one of the most important parts of our subject, and to which I shall first call your attention.

In order to investigate this subject we must understand, as nearly as possible, the original form or type of organized bodies and their relation to natural laws. Knowing the wisdom of the Creator by His wonderful works, we affirm that there was no imperfection in the different substances when first organized, and that each form of matter perfectly harmonized with the law given. Law and order were in the infinite mind in the perfection of all His works, from the smallest being that exists, to the boundless space about us, filled with countless planets of such magnitude that we cannot comprehend their greatness, and to which the one upon which we live is, in comparison, a mere speck. These planets revolve upon their axes with such perfection that there is no variation. The seasons of the year remain the same as in the beginning. What a lesson of perfection is the springtime, when all nature is filled with new life and beauty. The fields are green with the little blades of grass shooting up from the cold and dreary sleep of winter. The trees are spreading out their green foliage, the warmth of the sun is drawing sap from the ground and forcing new life into every extremity of their branches. Birds are returning from the sunny South, warbling their sweet notes, filling the air

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with soft and heavenly music. The air about us is fragrant with the odor of new-born flowers ; thousands of varieties are before us, tinged with the most beautiful and delicate colors. All this is but self-convincing evidence of Nature's Laws and their perfect harmony.

All organized bodies are formed from those which had not life at the time. Hence we find that no animal or plant can receive nourishment from living organic matter, but from inorganic. A change must take place by natural decomposition or digestion before living organisms can pass into organized substances. These have a tendency to resolve themselves, after vitality ceases, into their original elements or former state. "For dust thou art, and unto dust shalt thou return," is the common lot of all. Physical law, then, is the established condition of things, whereby all organized bodies maintain their original form and beauty to their own physical happiness and satisfaction during the period allotted to them. Then all variations from the original pattern of organized bodies are the result of violation or infringement of the law set in force in the beginning, to produce after their kind, the effects of climate and circumstances being properly considered. This must have been the case or there could have been no original balance of power. This being so, no organ in a perfectly developed body could fail any faster than another, but all would fail at the same time and with equal pace.

Then the cause of decay of the teeth is the violation of certain physical laws or conditions which keep the various organs in health.

Let us examine the habits of the people of the present day, and see if we have any trouble in discovering the immediate cause of the decay of the teeth. In order to do this with any degree of satisfaction we must commence our observations at the period of our existence when the teeth are forming; for it is then our attention is most needed, as certain conditions at this time will determine the future strength of our teeth.

#### MORTALITY OF CHILDREN.

We find by a little investigation, that about half that die throughout the United States are children under ten years of age. Why all this expenditure of life? Certainly we can charge no imperfection to the Creator, for all his works are perfect. And He never could have intended that the law of one organ should so infringe on others as to bring suffering and death upon innocent children. Then it is our own neglect, or ignorance of physical laws in the management of these little ones that produces all this destruction of life, as well as our defective and decayed teeth. The wonder is that so many live instead of so many die, or why those that live have any teeth at all. When we take into consideration the management of these children the wonder increases. They are mal-

treated from birth until death overtakes them and relieves them of their suffering. First, they are bandaged so tight about the waist that they become a deformity instead of the beautiful figure that Nature designed. Their lungs and other internal organs are so pressed out of shape that they cannot perform their proper functions ; consequently the full and natural circulation of the blood is impossible. The lungs become paralyzed and diseased for want of proper use. Free and natural respiration being impossible, the breath resembles that of the kitten instead of the human being. While groaning under this abuse, medicine is administered to relieve their sufferings and keep them quiet. Others are over-fed, and while crying with pain the process of feeding is repeated until the stomach is destroyed. Not only this, but they are smothered in bed-clothes and blankets, in close, unventilated rooms, never allowed to breathe a breath of Heaven's pure air, or feel the warm and genial rays of the beautiful sunlight, which is indispensable to health. Others are neither naked nor clothed, but about half of each, exposed to the cold and chilling blasts with neck and limbs bare, closing the pores of the skin, producing colds, coughs, fevers, and all the various diseases so prevalent. Medicine must be resorted to in order to check the disease. Remember that all this derangement of the child's health during the formation of the teeth, from whatever cause, produces

an abnormal condition of the deposits, and destroys the natural growth. Those who do escape the jaws of death after all this abuse, live lives of suffering. Poor, emaciated, deformed beings, little do they know concerning the cause of all their suffering. The teeth suffer in proportion to the injury received, and no more. God does not agrieve or afflict willingly, but our transgressions are visited upon us, and not His wrath. He has established throughout all His universe, that all violations of law, whether they relate chiefly to the body or the mind, shall receive their just punishment. Thus it is that our once noble frame and great physical strength have so much degenerated, and we are doomed to disease and decay. Rushing through life, fearless and thoughtless, we become a diseased mass of human beings, degenerated and toothless, employing in the United States in the neighborhood of one hundred thousand doctors and dentists. Have you ever thought what it costs to support this great army of doctors? Say nothing of those who accumulate great wealth, we may allow one thousand dollars for each, and you have a low estimate of the amount paid annually in the United States. This is not all. Millions more for drugs and medicines are expended annually to keep us in repair, after having shipwrecked ourselves by indulging in all manner of foolish habits. Our food has frequently been of such a nature that it has robbed the blood of the wherewith to make good teeth. Our teeth

and general bony framework but illy compare with the back-woods settlers who personated our grand-fathers, who slept in log cabins where the ventilation was free through the draft of the big fireplaces and the openings between the logs. They were independent of fine bolted flours and sweetmeats, but relished rye and Indian bread, and other coarse and natural foods which composed their bill of fare.

#### HOT FOOD AND DRINK.

Our present habit of using hot food and drink is one of the most destructive to our teeth. Probably the most conclusive evidence of this fact is that animals fed on their natural food never have decayed teeth, while those fed upon hot slops have decayed teeth and diseased gums, very much resembling those we have in the human family. This is the best evidence that hot food and teas were never intended for us to use. In fact no drink of any kind is needed while eating, and is entirely unnatural and injurious to general health, as well as to the teeth ; and if we chew our food as long as we ought we will have no use for any more moisture than Nature has prepared. How ingenious are these little saliva ducts, arranged in different parts of the mouth for the purpose of supplying the right quantity and quality of moisture to digest our food easily. Not satisfied with this process of Nature, which the All-Wise Creator has established as a law, our food, as soon as it has reached the mouth,

is rinsed down with hot teas before it becomes properly masticated or mixed with the saliva of the mouth. Consequently the whole process of digestion is deranged. Teeth were given us to masticate our food properly, while the saliva of the mouth moistens and prepares it for the stomach. If we have no teeth, or through negligence we do not use them, but rinse our food down, the stomach is called upon to perform the labor of both organs. The result is it is over-taxed, and soon becomes weak ; so much so that it cannot perform its functions of distributing the proper quality of nutriment from the food to supply the blood with material to give good teeth, as the teeth when fully and perfectly developed, contain phosphate of lime to the extent of sixty-two per cent., and the enamel eighty-five. If less than this to the proportion of the whole tooth is formed, the teeth become soft and chalky, unable to stand the expansions produced by eating and drinking hot and cold food. This abnormal condition of the secretion of the mouth is many times so acrid in its nature that these frail teeth waste away like dewdrops in sunshine. How can we expect strong and healthy teeth if we continue to violate the laws and conditions that produce good health and strong and perfect teeth, as they, like the rest of the body, are composed of material brought into the blood through the digestive organs, and carried to the structures of the teeth. If the stomach, the organ that separates



and distributes nutriment to the various organs to keep them in health, is weak from over-exertion, or if not supplied with proper material, as is often the case, the result, frail teeth, is inevitable.

#### THE AIR WE BREATHE.

How wonderful are the works of Creation ! The air we breathe is filled with new life and strength, and, however perfect our habits may be otherwise, we cannot enjoy good health unless we have pure air to breathe, to purify the blood. It is estimated that an ordinary sized person requires about forty thousand cubic inches of oxygenized air every twenty-four hours, to be used up in breathing. About four-fifths of this is used in burning up the carbon in the blood, and is turned into carbonic acid ; the balance is used in giving to the blood its proper color and stimulant. From this simple fact, and bearing in mind also that only one-fifth the air we breathe that passes from our lungs, if it was pure when it entered, is carbonic acid gas, and contains little or no oxygen or ozone, you can form an idea of the importance of free ventilation. Then if we sleep in poorly ventilated rooms, we use up all the oxygen in the air, and are compelled to breathe the poisons which have been thrown off from our bodies to purify the blood and keep the various organs in health. How many of us get the required amount of oxygenized air ? We are in the house nearly all day. Ingoing to and from our homes

about the city, we are literally poisoned, not only by breathing over and over our own breath, but the breaths of others ; crammed with sixty to a hundred persons into a street car or omnibus, with no ventilation, and not air enough in the whole space of the car for each person to draw a natural breath without drawing into the lungs the poisoned breaths of other persons ; to say nothing of the various diseases of the occupants of a street car, combined with the fumes of whiskey and tobacco. Talk of the inhumanity of shipping cattle crowded into a railroad car ; it does not compare with that of a crowded street car, for these cattle cars have spaces where air can pass through, but street cars have not. If they have, you open one of these little ventilators and see how the people will stare at you for daring to let in the cold air, as they call it. And if some gentleman does not step up and shut it, some lady will ask the conductor to please shut the ventilator. The fact is we keep ourselves so closely housed that fresh air is dreaded.

#### BLOOD IMPURITIES AFFECT THE TEETH.

This brings us to the conclusion that not only the blood impurities produced by impure air and improper food, and an unclean skin, produce their destructive effects upon the teeth, but that many of us inherit a still more destructive difficulty of the blood, which is struggling for supremacy, and whose indelible presence is seen in the development of

the teeth. It is then one of our first duties to study the laws that keep the various organs in health. This is physical education. It is a solemn truth, and one that should be familiar to us all, that for the most part we bring all our pain and suffering upon ourselves. If not the effect of our own sin or imprudence, they are traceable to the neglect or ignorance of our parents or the guardians of our youth, or they are entailed upon us by our parents ; they may have inherited them from theirs. They are the result or penalty for the violation of the law which was established before man existed. I have I trust, shown, satisfactorily, why teeth decay. I have shown that decay of the teeth is an indication of a diseased condition of some of the functions of the body ; for in health the conditions to resist disease exist, each organ performing its own individual labor. You point to a person in perfect health, each and every organ performing its share of labor, and yet the person has decayed teeth. My answer is that if perfect health is now enjoyed by such a person, the fact of the teeth being decayed is conclusive proof that this derangement of functions existed during the formation of the teeth, or at some other time. The body may recover, but the teeth cannot.

With this lack of vitality of functions and the conditions that produce them, we must expect our teeth to decay. The only remedy for this great trouble, or at least the first principles, lie at the

door and must be the work of parents generally. It is for them to understand the laws of health and see that their children live within the bounds. They should know what constitutes proper food, that which contains all the earthy materials essential to the perfect development of the bones and teeth, as well as being healthful and nutritious. It is a fact that the children of this country are overfed as well as fed upon improper food. They are allowed to eat at all hours of the day, consulting only their own depraved appetites, of pastries, confectioneries, and all other delicacies of modern invention, until they become confirmed dyspeptics. It is astonishing how many children die from the effects of this imprudence, and how many there are in which not only the development of the teeth is destroyed, but the whole body is deficient in physical strength. The youth with rosy cheek and glowing health that might have smiled upon the parents, disclosing teeth of pearly whiteness, sound and strong, is instead an emaciated, sickly, uncomfortable, half-developed being, with a mouthful of decayed teeth. Who is responsible? I need not answer this question but leave it for your serious consideration. There is no other remedy for the relief of children of this and future generations but for parents to wake up to the importance of the subject that so deeply concerns the welfare of those near and dear to them.

It is an acknowledged fact by all those who have

given this subject any study, that among people who have been obliged to live almost entirely on coarse food and unbolted flours, and who have dispensed with pastries and sweetmeats, the teeth are fully developed, strong and perfect. It is said that a large portion of the Scotch people who possess great physical strength, and who have fully and perfectly developed teeth, live almost entirely on unbolted flours, using meat as a luxury ; while the Irish, with their iron constitutions and sound teeth, would prefer the Irish potato to a piece of pie or cake.

If we take Professor Johnson's analysis of wheat in the kernel, and from our unbolted flours, we find that we lose one-half of the nutriment and about one-half of the bone forming material which is separated with the bran. I might bring much more evidence to convince you of the truth of this theory, but I trust this is sufficient.

#### SUNLIGHT INDISPENSIBLE TO HEALTH.

In connection with what has already been said in regard to the laws of health and as to what invigorates and strengthens the body, other things being equal, also invigorates and strengthens the teeth. Let me say sunlight is one of the most necessary requisites of our nature as regards our physical strength and happiness. You who have raised flowers or watched the germs of life at springtime, can very easily conceive its beneficial effects upon

vegetable as well as upon animal life. Plant your flowers where the rays of the beautiful sunlight never reach them, and see if they become thrifty and give out their original fragrance and beauty. Man is so constituted that a certain amount of sunlight is indispensable to insure him health, without which life is a burden and we are unable to see the many beautiful things in Nature about us. It drives away the shadows of darkness and fills our homes with pleasure and happiness. It is the source of all the energies in the world. It is the creator and supporter of all life that now exists upon the earth. Relatively speaking, its effects continue to create and support all life; it keeps us warm in winter as well as in summer, for the coal that is continually being taken from the bowels of the earth and carried to the various cities and towns for this purpose, is simply its effect and product by chemical changes upon vegetable substances. Thus we might continue to speak of the many beautiful things in Nature that please the eye, from the beautiful flowers to those things which are necessary to sustain life; in fact the mind can not comprehend or picture its many blessings and its wonderful effects. Without its effects we could not exist and never would have existed; hence we say it is a creative power. Then if you would have health you must seek sunlight. You cannot afford to do without its effects by shutting yourself up in your houses with shades and shutters closed. It is

as essential as proper food, or air or water. Spend a portion of your time under its embraces, where you can drink in its effects unadulterated. Rise at early dawn when the bright sunlight is diffusing its beauteous rays on the distant hilltops, bringing with it new life, strength and joy to every living thing upon the earth. The birds are singing with renewed energy, sweeter than ever. The tiny flower buds are unfolding their beautiful and delicate colors, and fragrance fills the air, while all Nature seems to greet the sunlight with unceasing praise.

#### WHAT TO DO.

I must now advance one more step towards the close of our subject. What must we do under existing circumstances to prevent our teeth from further decay, and make them serviceable? This is a question that has hitherto baffled the skill of the most eminent dentists, and one that cannot be answered satisfactorily to all, as each individual case may differ so much in character, and the causes of decay are so numerous. Not only this, but the success of an operation of filling the teeth depends upon so many conditions that we must speak in general terms. If a tooth has become decayed to any extent, I believe in thoroughly and properly cleaning the cavity and filling with pure gold. This, if properly done, will effectually check the further progress of decay, under ordinary circumstances. This, however, or any other remedy

that may be devised, is no guarantee that the same decay around the filling may not occur as well as other teeth in the mouth, should the habits of the patient be such as to produce an abnormal condition of the secretions of the mouth or disease of the body. In order to prevent this the stomach must be kept in a healthy condition. This can only be done by adopting strictly temperate habits. Eat a moderate quantity of good, nutritious food, three times a day. Use no tea, coffee, rum, opium or tobacco. If you think you must use it on account of established habit, use discretion in regard to strength and temperature and quantity. Be temperate in all things. The teeth must be kept strictly clean. To do this properly they must be brushed regularly after each meal, being careful to remove all particles of food that accumulate between them before it acidifies in process of decomposition, changing the secretions of the mouth to an acid, instead of remaining alkaline as when in its natural state. There are cases of decay of the teeth where it may be advisable to cut out and polish. The judgment of the operator must decide this question. It is an established fact that this process will preserve teeth from further decay, if the operation is done in proper time and thoroughly performed under favorable circumstances. I have seen teeth that have stood this test for twenty years without any further decay. This will knock in the head the idea that many people have that filing



the teeth causes them to decay. How often patients object to having their teeth filed on this account. I do not advocate this process where the cavities have become large and the original shape of the tooth may be greatly interfered with; but much time and suffering may be saved by watching the children's teeth and having each cavity thoroughly operated upon in this manner when it first makes its appearance, if the locality of the decay is in a place where it would be advisable. As I said before, this must be left to the judgment of the operator. If this does not prove successful, the tooth can then be filled; the success, however, will depend upon the same conditions spoken of, a proper and healthy condition of all the functions.

#### DESTROYING THE NERVES OF TEETH.

I must not pass this part of my subject without correcting the erroneous idea that many people have in regard to having the nerves of their teeth destroyed. Hundreds of people have called upon me and wanted the nerves of their teeth destroyed, when in fact the nerves of the teeth were not exposed. They suppose that if the nerve is destroyed that will be a guarantee against tooth-ache from that tooth for all time to come. Never consent to have the nerves of your teeth destroyed. If your dentist does not know how to reduce the inflammation and fill them without, patronize some one that does. I have not time here to mention the many

injurious results that follow the destruction of these little fibrous nerves. The moment the nerve is destroyed the tooth becomes a foreign substance to a certain extent ; that is, where the vitality is entirely destroyed. It is the source of irritation, inflammation and ulceration, to say nothing of the injury the nerves to the face receive in this poisoning process, when improperly performed. Many people have paid out hundreds of dollars for medicine and doctor's bill, when the whole difficulty was the effect of carrying around these dead teeth in their heads, improperly treated.

It is no uncommon occurrence to be called upon to treat necrosis of the alveolar process, disease of the periosteum, disease of the antrum, fistule opening where a continual discharge of fetid pus is passing, and many other difficulties which I have not time to mention, caused by these dead teeth. I need not picture to you the appearance of a person with an ulcerated tooth, to say nothing of the excruciating pain he suffers. Think of a person with his face so swollen that his eyes are closed, his lips resembling the full-blooded African. This is sufficient to impress upon you the fact that teeth do ache after the nerves are destroyed. If teeth would have been better without nerves, the all-wise Creator would have made them so. You would not think of having the nerves of your finger destroyed simply because the finger was inflamed and painful, but you would be rational and subdue the in-

inflammation and produce as natural a condition as possible. This is what dentists are going to do in the future with the teeth, and in order to be successful, the public must understand that this is the only proper way, instead of insisting on having something done that will prove an injury rather than a blessing. It may be a necessity under some circumstances to destroy the nerve of a tooth, but every effort should first be made to save the tooth alive. We will admit that it requires more labor and more skill for the dentist; but if he is an honest man he will do everything in his power, if you are willing to pay him for his extra labor.

Always have the very best work that can be done, if it does cost more. Remember that men of ability and experience expect a reasonable compensation for their labor. First of all patronize a conscientious, reliable dentist. Give him to understand that your teeth are in his charge, and that you shall hold him responsible in the future for the loss of any of them. Be ready to follow his advice. Visit his office two, three or four times a year as the case may require. Don't wait until you have tooth-ache before you think it necessary to have them attended to. Show a disposition to pay liberally for services which to you are of more value than gold. The same rule in this respect holds good as in all others. While a good, fair price must be paid for good work, extortion should not be tolerated in any case. Of all the poor, cheap things within the reach of our

imagination, poor, cheap dental operations are the dearest. The dentist who undervalues his services shows proof beyond a doubt of his inability to do work profitably for his patrons. Many of the operations performed on this idea of cheapness would be dear if performed for nothing.

#### THE TEETH TO THE FACE.

I must not close without speaking of the influence of the teeth as regards the general expression and appearance of the face. This cannot be fully pictured before your imagination. If regular, pure and clean, they contribute more to beautify than any of the other organs, by diffusing amiability over the countenance. The influence which the teeth exercise over beauty justifies the pre-eminence over all the other attractions of the face, by softening the features and bringing to perfection the human face divine. These ornaments are equally attractive in both sexes. By these we can distinguish the clean from the slovenly. Let us see what Mr. Pleasant says, who has drawn the following picture from this subject:

"If the sculptor, the painter, or the poet would invest a production of his genius with those forms of horror at which humanity shudders and recoils, he perfectly comprehends the art of giving to his allegorical personage an array of teeth black with tartar, mutilated with gangrene, broken by violence, or wrested by distortion. Should envy present

herself in the group, her parted lips would disclose but a single fang. Should malice approach to persecute his victim, his teeth would be turned away, as if by the violence of his passion. Thus the wrinkled witch, the smoking gypsy, the fortune-telling hag, and the free-booters of the seas, would lose the proper expression of their distinctive character, if supplied with regular and beautiful sets of teeth." Moore says, in speaking of the deficiency of these organs:

" What pity, blooming girl,  
That lips so ready for a lover  
Should not beneath their ruby casket cover  
One tooth of pearl;  
But like the rose beneath the church-yard stone  
Be doomed to blush o'er many a moldering bone."

How little attention many of us give to these important organs, the beauty of which in perfecting the human face has attracted the attention of the sculptor, the painter and the poet, as well as the whole scientific world, for thousands of years, who have failed to picture any design of perfection in the human face, without giving prominence to these organs.

The cheek may glow with the picture of health and the freshness of the morning rose; the eye may sparkle with undaunted brilliancy. The hair may hang in soft and golden ringlets about the form of the most beautiful, should she greet you with a smile of loveliness that would captivate the most

fastidious, if by her smile teeth should be found wanting or irregular, black or decayed, all would be lost to the eye for the beautiful.

Like music soft and sweet stealing over our unconscious imagination, filling our soul with all that is great and good, causing the bosom to heave with passion, and the eye to shed tears of joy, bringing nearer and nearer the mystic chord of angelic sweetness; as if by magic the harmony falls upon our ears and we are lost in admiration. Then, if by some unknown error, discord after discord falls upon our ear, the enchantment is gone. And so it is with the face, however beautiful and attractive it may be; the harmony is lost when the teeth are wanting or imperfect.



**Explanation to Cut Referred to on Pages  
43 and 44.**

The following cut shows the temporary teeth erupted, ten in number, figure 1 being the center of the mouth. By carefully examining this cut, any



person can very readily tell when all the temporary teeth are present. Commence at No. 1 in the cut and count until you reach five teeth, to figure 5 in cut; then you have all of the temporary teeth, that is by counting five each way from the center, either in the upper or lower jaw. At the terminus of the number already counted, and directly under

No. 5, with dotted line numbered 2, lie the six-year-old molars, so called, just ready for eruption, which make their appearance at the age of six years, and are often taken for the first teeth by the parents, and neglected until they become painful, then they have them removed; and this cut is given so that any person can very readily tell what teeth they are, and by so doing have them attended to. The process of eruption is shown in other places in this cut, as dotted line No. 3. These are given simply to show how important it is to care for the first teeth until they loosen and can be removed easily, as nature intended. It can be seen by this cut how closely connected are the first teeth roots and the crowns of those about to be erupted of the second teeth, and how unnatural it would be to interfere with these by extracting the temporary when firm in the jaw, and before the second are fully developed and ready to be erupted.





## Cutting the First Teeth and the Care of Them.

Of the first or temporary teeth there are twenty, ten in each jaw. They are erupted about as follows: The first that make their appearance in the mouth are the central incisors or two front teeth, as shown in cut No. 1.

These make their appearance from 5 to 8 months after birth.

The next are the lateral incisors (two in number), from 7 to 10 months after birth.

The next are the canine or eye teeth (two in number), from 14 to 20 months after birth.

The next are the first molar or double teeth (two in number), from 12 to 16 months after birth.

Second molar of the first set (two in number), from 20 to 30 months after birth, ten in each jaw.

During the eruption of these teeth much pain and suffering are common, and even the death of the child is no infrequent occurrence. To say that this trouble has existed from the first and was the design of the Creator would be to impugn his wisdom. Consequently we must look within ourselves for the solution of this question.

These teeth need the attention of a thorough, competent dentist from the time they first make their appearance until they become loose and drop out to give room for the permanent set. It seems

very strange to many why these teeth should require any attention, being but temporary teeth. There are many reasons why they should receive this attention. First, it is very necessary that these teeth should remain in the mouth until the second teeth are ready to occupy their place. Again, if they decay, and are not filled, they become so troublesome that they have to be removed, and many times the permanent teeth directly under are injured by their removal. If they are cared for from the start there is no great expense attached to keeping them in order, and all this pain and suffering that many children pass through would be avoided, to say nothing of the sleepless nights of the parents, and the injuries that the second teeth receive from ulceration and inflammation of the surrounding parts. After the cavity becomes large the nerve dies and the teeth ulcerate. This is not all. Many children have died from diseases contracted by neglecting to give the teeth proper attention. It is wholly through neglect that but few of these first teeth need extracting before the proper time, or that ulceration or toothache need occur. There are cases where these teeth have to be removed before they become loose to give room to the permanent teeth that are coming in irregularly ; and many times this can be avoided if looked after by a competent dentist, sometimes by filing away a portion of the temporary teeth, and at others by changing their position, which can be done in many

instances where the teeth are firm and it is desirable to leave them in the mouth still longer.

At the age of six the six year old molars make their appearance. They are four in number, two on each jaw directly back of the temporary set, one on each side, as marked in cut. These teeth are often taken by the parents to be the first teeth, and little or no attention is given them until nearly destroyed with decay ; so much so that it is almost an impossibility to preserve them, and they have to be removed. This, by many parents, is considered no great loss. But when we take into consideration the fact that the whole shape of the face is changed by contraction, in removing these teeth before the jaw becomes fairly developed. I think it is a great misfortune. Who knows how much handsomer and more beautiful our children might have been when grown to puberty, if nature had not been interfered with directly or indirectly. I have seen many faces in which the general expression was injured by extracting these teeth in childhood. Many times the dentist is to blame for the loss of these teeth. A thorough diagnosis of the case should be the first thing, and then a thorough explanation to the parent, giving advice to the best of their ability, always aiming to preserve all the teeth possible for the benefit of the patient.

At other times the parents are to blame. The way for parents to approach a dentist is to ask his advice instead of advising him what to do. It has

become quite a common thing for people to advise the dentist what to do, and to advise the doctor what to do, and what medicine they want, when they are ignorant as regards their disease and the effect of the medicine they propose. A doctor who understands his business will pay but little attention to such advice until he has made a thorough diagnosis of the case, and has determined what it will be best to do under the circumstances.

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### The Care of Children.

This is a subject to which people generally give very little attention. Even women, who are to become the mothers of future generations are deplorably ignorant of the proper care of children. You may think I am using strong language, but my observations have not been very flattering in this direction.

When we take into consideration the number of deaths among children at the present time, we are more fully convinced of the inability to care for them. It is stated on good authority that of those that die annually in the United States one half are children under ten years of age. Can we do more than charge it to the want of proper care? It is not from a lack of motherly love in most cases, but from ignorance of causes and effects, and how can we expect any other result when we take into consideration the fact that their time in school

days was occupied in all other branches of study except this one, all-important to the present as well as future generations.

I believe the time is not far distant when physical culture will form one of the first and most prominent parts of the studies of the school room and fireside. More especially is there needed a change in the development of girls who are, by the present stage of society, prevented even from getting exercise enough to enjoy good health without being called romps and all other vulgar names that can be thought of. As well think of raising good corn without plenty of sunlight, as healthy, fully-developed girls without both sunlight and plenty of exercise.

When our schools shall occupy a portion of their time in teaching Anatomy and Physiology and the laws and conditions of health, we may look for a change for the better and not till then. As long as children grow up in ignorance of their own being, as long as parents are either too ignorant or too modest to talk to their daughters upon a subject which should be fully understood what more can we expect? If a little more good judgment and a little less false modesty could be used, the world would be a great deal better off, and much suffering and pain would be avoided, as well as many valuable lives saved among our children.

It is not my intention to treat upon all the particulars connected with this subject but to throw light enough upon it to keep the chain of my re-

marks clear; for the conditions that produce puny, unhealthy, sickly children cause much of this pain and suffering in cutting teeth; and this is too often owing to ignorance and bad management on the part of the parents. To many, this may seem very strong language, they supposing that her maternal instinct would lead her to care properly for them. This might be the case if we were living in a primitive condition; but in our present state of habits it is nothing strange. I have not the least doubt that we are descended from races of people that once lived on food in its crude state and children were cared for by natural instinct. Our mental activity or reasoning faculties have taken the place of instinct until we have almost entirely lost this aboriginal gift. Whether our manner of cooking our food and of living is advantageous is exceedingly doubtful. I think it is not either physically or mentally so.

Animals are wholly controlled by instinct in the care of their young; but what are we to do with beings who have outgrown their instinctive intuitiveness and yet do not use their reason? They would be far better off if they were living in the age of instinct, so far as the physical vigor of their progeny is concerned. We have passed from this stage of our existence and growth, but the passage must have been very gradual.

At the present time, a great deal of trouble is generally experienced during the period of cutting

teeth. Why does this trouble exist? Is it a necessary result, and has it always existed, or is it owing to our habits of life? Many mothers seem to think that it is a natural result and wonder why they are tormented day and night, and are obliged to resort to various soothing syrups and cordials to benumb the sensibility of the child; or in other words, to intoxicate this little being with some drug until its sense of feeling is lost. It is safe to say that every one of the cordials and elixirs advertised as a boon to babies and a relief to mothers, contain opium in greater or less quantities, and hundreds of children, yes, thousands are being killed, while others are being injured for life. Then again, could we realize the fact that we are creating an appetite for strong drink, tobacco and opium eating in after years? This early appetite will almost always remain with the child until he is old enough to follow out the inclinations cultivated by his own mother.

The smaller the amount of medicine administered the better, either while cutting teeth or at any other time. A little harmless medicine is all that is necessary. If the mother is sufficiently careful about her diet while nursing the child.

If anything more is needed, always employ a regular, thorough and competent physician who knows what is needed, instead of dosing your child by guess. It is one of the greatest and most serious *drawbacks* at the present day in the care, manage-

ment and success of raising children, that our drug stores are filled with compounds that would kill a grown person if used to the extent that many children are forced to use them. These compounds, many times, are put up by men who know nothing about the conditions they claim to be able to cure, and care less. It is simply a matter of dollars and cents with them. More money is paid out in this way than it would cost to call a physician, who would see, by a little questioning about the diet or management, that very little if any medicine was needed. You would learn this much and perhaps save the life of your child, and the amount of money you would expend in patent medicines.

Nursing is much more favorable to the child's health than otherwise when Nature provides sustenance. Her provisions are always just. As a rule, any good, wholesome food that agrees with the mother, will not injure the child, if not indulged in to excess. The excessive eating of the present time is one of the greatest evils we have to contend with, and causes more trouble than is generally supposed. Our present manner of cooking is not only destructive to the child, but the mother, as is shown by the present physical condition of nine-tenths of the children. Do not understand me to say that this is the only cause, but that it is one of the causes of so much disease, misery and destruction in the human family.

Wet nurses are dangerous experiments, when we



reflect that medical and physiological authorities agree that physical as well as mental traits may be transmitted to the infant through the breast of the nurse. Cow's milk, fresh and pure, diluted with soft water and sweetened with loaf sugar, closely resembles the mother's milk ; not slop-fed cows, but pasture-fed. But no milk except that of the mother should be given unless absolutely necessary. A prominent physician of New York, in speaking upon this subject, says :

“Is it not notorious that some infants are crying a great portion of the time in consequence of pain? And is it natural, or can there be any other cause except the poison communicated through the medium of the blood before and after their birth, or the disease may proceed from the impurity of the mother's milk occasioned by errors in diet. It is self-evident that it is so, from the fact that animals are free from these symptoms. Can there be any other cause why so many children are in distress from their birth and generally die young, or continue weak and sickly all their lives? There must be a reform in the habits, tastes and education of modern females. Many mothers are as ignorant when they have brought a child into the world, of what is to be done, as the infant itself.”

Combe says : “The leading error in the rearing of the young, I must again repeat, is over-feeding, an error serious in itself, but which may be easily avoided by the parent's yielding only to the

inclinations of appetite, and administering food slowly and in small quantities at a time. By no other means can the colics and bowel complaints and irritability of the nervous system, so common in infancy, be effectually prevented, and strength and healthy nutrition be secured. Nature never meant the infant stomach to be converted into a receptacle for laxatives, narcotic stimulants and astringents; and when these become necessary we may rest assured that there is something faulty in our management, however perfect it may seem to ourselves. The only exception is where the child is defectively constituted, and then of course it may fail to thrive under the best measures that can be devised for its relief." Again, Combe says, in speaking upon this subject: "One of the most pernicious habits in which children can be indulged is that of almost incessant eating. Many mothers encourage it from the facility with which for a time the offer of something nice procures food."

Even from infancy the child ought to be gradually accustomed to eat only when hungry, and only when food is really required. After ten years of age the interval of four hours between meals will rarely be more than enough; and to give biscuit, fruit or bread in the meantime is just subtracting from the digestive power of the stomach. Like almost every organ of the body, the stomach requires a period of repose after the labors of diges-

tion, and accordingly in the healthy state the sensation of appetite never returns till it has been for some time empty. To give food sooner, therefore, is analogous to making a weary traveler walk on without the refreshment of a halt.

“It is no new or uncertain doctrine that the quality of the mother’s milk is affected by her own health and conduct, and that in its turn it directly affects the health of the nurseling. Even medicines given to the parent act upon the child through the medium of the milk ; and a sudden fit of anger or other violent mental emotion has not unfrequently been observed to change the quality of the fluid so much as to produce purging and gripe in the child. Care and anxiety in like manner exert a most pernicious influence, and not only diminish the quantity but vitiate the quality of the milk.”

When we reflect that the object of digestion is to furnish materials for the growth of the body and to supply the waste which the system is constantly undergoing, it must appear self-evident that if the digestive powers be impaired by disease, by improper quantity or quality of food, or by other cause, the result must necessarily be the formation of an imperfect chyle, and if it be vitiated the blood also must suffer. If the blood be diseased so necessarily must be the organs which are supplied, and if the body be thus disturbed can any wonder be felt that it should no longer be able to resist the action of offending causes which full health alone can withstand.

I must not forget to mention here the necessity of bathing as a necessary means of producing the result just spoken of to assist in keeping the blood pure as well as to promote health. Water, in all ages of the world, among all nations, civilized and barbarous, has been held in the highest estimation as a preventive and cure of disease. All distinguished philosophers, physicians and theologians, ancient and modern, have spoken in the highest terms of its virtues. Not only is it a promoter of health on account of keeping the pores of the skin open so that all the worn-out refuse of the body can be easily carried off, but we must concede to it other virtues that help to invigorate the system and to throw off disease. That water possesses a great amount of electricity there is no longer a doubt. Prof. Faraday, in his experiments demonstrating these facts some time since, showed that the quantity of electricity set free by the decomposition of ten drops of water is actually greater than exists in the most vivid flash of lightning. That the body receives beneficial effects there is no doubt. There are many theories, but just how this effect is produced has not yet been fully demonstrated. Is it strange that the wonderful mechanism of mankind should become diseased as little as we know how to protect ourselves from the influences that surround us and are always ready to attack us when the vitality of the system is sufficiently reduced as not to be able to resist diseases? There

are about seven millions of pores on the surface of the human body and from twenty to forty ounces of worn-out material pass off daily when the functions of the body are in an active, healthy condition.

Now then, our physical strength and endurance, when grown up, depend much upon our having had a fair show ; and if our parents have understood the conditions necessary to our welfare and development as children, then we stand a much better chance of being what nature designed us to be.

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### **The Conditions Necessary to Insure Good Teeth.**

It is a great mystery to some people why we are obliged to take so much care of our teeth to keep them clean and to keep them from decay. Many times have patients expressed themselves like this : "I do not see why our Creator did not make our teeth to last as long as we live, without so much trouble and pain." This is the first and most natural inquiry that arises in our minds ; but upon reflection we see at once that the Creator is not responsible for this unnatural condition of the teeth, any more than he is for the weak and debilitated condition of the system. The conditions of health are with us, and if we are ignorant of natural laws we must suffer the results.

We have been informed by a man who has been

among the natives of tropical climates, where they depend upon the hand of Nature for their food, and everything necessary for their health and comfort grows in abundance, and where they eat it without its being materially changed, that such a thing as decayed teeth among these people is unknown. Their teeth are clean and white ; they require no brushing. Why ? Simply because all the conditions of the system harmonize, and they are, comparatively speaking, free from all the vices known to civilization.

Among these people there are no deposits of saliva, calculus or tartar around the neck of the teeth ; no diseases of the gums, because all the organs of the system are in health, each one performing its own work uninterrupted by artificial habits, hot bread, hot teas, hot puddings, pies and tarts, and a hundred other articles too numerous to mention.

How can we expect healthy mouths and perfect teeth and long life, when we make stuffing machines of ourselves, and drug stores of our stomachs ? No wonder so many commit suicide under this depressing condition of the system. Life is a burden, and according to Prof. Faraday's version of suicide it is very common at the present time, for he conveys the idea that all who die under one hundred years of age may be charged with self-murder ; that Providence intended man to live a century, and would allow him now to live to that advanced

age if he did not kill himself by eating unwholesome food, allowing himself to be annoyed by trifles, giving license to passion, and exposing himself to accident. You may say we have no proof that man was intended to live to this advanced age. Following the theory that the duration of life is measured by the time of growth, with man it generally takes twenty years to effect this growth. According to this theory he should live five times twenty, or one hundred years. The camel is eight years in growing, and lives five times eight, or forty years. The horse is five years in reaching its growth, and lives five times five, or twenty-five years; and so with all other animals. Whatever may be said of this theory, it proves itself correct in most cases; and for my part I never doubted for a moment that man was intended to live a century. It is no uncommon thing to find American Indians one hundred years old, and even older; that is, those who have not become associated with the habits of civilized people. Many white people who have lived in the back woods, away from excitement and strife, and have been regular in their habits, their food being of the coarsest kind, going to bed early to rest and refresh themselves from their daily labors, furnish examples of long and healthy life. One hour's rest in the early part of the night is worth three in the latter part. They rise early and greet the rising sun, and behold the beauties of the morning. They breathe the bracing

atmosphere. These people are seldom sick, never have tooth-ache, and, as a rule, their teeth remain in their heads a life-time, where there are no hereditary tendencies. They never commit suicide. They live long and die happy. They pass away like the flower of a season. It buds, blossoms, and has fulfilled its mission.

When we learn to live as nature requires, then we can enjoy life in its fullness ; but how many in the present age can see happiness? This world to them is a dark and gloomy place. They sigh and groan with aches and pains. They live in anticipation of happiness, but never reach it. They long for wealth, and spend enough for food that makes them miserable, and that they would be better off without, that in a few years would make them independent as far as money is concerned.

When we learn that our highest aim should be to know Nature's laws, and to live by these laws, then we can enjoy life. Then we will be a Christian people, and not until then.

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### What Is Disease?

This work would not be complete or comprehensive, after having so many times called attention to certain conditions of disease, without an explanation of this term. Then, what is disease? All life depends upon certain conditions either for its propagation or continuation, and these surrounding



conditions play an important part in determining the extent, fullness or duration of life as connected with any and all organized beings. Living bodies are distinguished, as regards their structure, from those of the inorganic world mainly by the fact that they are organized ; that is, they are composed of a number of different parts called organs, connected together, and mutually dependent upon each other. If any of these organs become affected with disease all are more or less involved. Now, then, the influences surrounding all animal life are identical, and man is more subject to, and affected more than animals, on account of his change from natural food to unnatural, and to intemperate habits of various kinds. I say, outside of these all life has the same contending forces to battle against, and outside of this nearly all diseases are caused by the development of cryptogamous plants and microscopic animalcula. To be more specific, the air we breathe is full of minute germs that only need to come in contact with the proper conditions to develop themselves by millions in a single night. These germs contain the poisonous seed and will produce the diseases peculiar to their nature. The microscope has revealed the fact of the existence of these poisons floating in the air, not only coming in contact with the mucous membranes, being inhaled by the process of respiration, but they fall upon our food and are carried into the stomach, and in a short space of time, if our system is not in

**a vigorous and healthy condition and able to resist their attacks, will spring into life, both animal and vegetable ; that many diseases are produced by the irritation caused by the development of these microscopic germs, the feeding of parasites, the depositing of spores, as well as the growth of vegetable matter which this animal life feeds upon there is no longer a doubt. Without entering into a detailed account of the various forms of germinal matter capable of producing as many diseases when the proper conditions present themselves, suffices to say that Nature is always making an effort to resist the growth of all injurious and destructive agencies ; but when health does not exist, hereditary or otherwise, it has not the power, as all the secretions are in an abnormal condition and not capable of effecting their destruction.**

An investigator who has given much time to this subject, claims that nearly all chronic and most acute diseases are produced by infinitesimal organic germs of vegetable and animal life introduced into the system through the lungs and skin, into the stomach with the food, and in other ways. Then, life is a condition subject to certain laws, the violation of which is the signal for the attack of another force called disease, which destroys life, or has a tendency to destroy it. The result depends upon the degree of resistance it meets with. Thus, we have a clear and comprehensive explanation of the term disease. There is no mistake about it.

When a person is affected by disease there are two conflicting forces at work : one force is making an effort to establish itself and perpetuate its own particular life and existence ; the other force is simply the result of certain conditions antagonistic to the life spoken of, and many scientists argue that this force is simply the effort of a lower form of life trying to perpetuate its own individuality, the perpetuation of which is destructive to the life attacked.

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### The Extraction of Teeth.

The extraction of teeth is of ancient origin a barbarous custom originating in ignorance and does not belong to a civilized and enlightened age, it is entirely unnatural and unnecessary. Teeth were first extracted because they had become painful from disease and they did not know how to stop pain or cure disease at that time, so destroyed the organ. Teeth are extracted to-day for the same reason, but there is no excuse for it. It is said "where ignorance is bliss it is folly to be wise" but that would not apply in this case, so I think we could reverse the saying and make it applicable, where wisdom is bliss it is folly to be ignorant. It certainly shows no wisdom on the part of the person having teeth extracted, and much less for the dentist that advises extraction unless the teeth were loosened to such an extent that they could not by proper treatment be restored to their original use.

fullness. Now if we should follow the same rule in all diseases we would soon become a good specimen of physiological curiosity, fit only for a museum. How hard it is to turn the mind from its early education, however erroneous or injurious it might be. Suppose, for instance, when a surgeon was called to set a broken bone he should amputate instead, and advise a cork leg or arm. Is there any perceptible difference, from wrenching a firmly fitted tooth from its socket and afterwards putting in a poor substitute, the best of which are poor compared with the natural tooth. The fact is that less skill is needed to extract teeth than to preserve them, and the average dentist has not a large stock on hand, so he extracts the teeth of all who call on him with diseased teeth. Could I but draw a picture and bring to your view one half of the suffering, misery and death caused by the extracting of teeth your surprise would only be exceeded by the amount of ignorance accompanying each individual case, could you but know their history. Thousands of people have called upon me who have been unfortunate enough to have fallen into the hands of these men who claim to be dentists, and have been made toothless and many of them invalids for life, that would have given their last dollar to have had the same teeth replaced in their heads again. With all our boasted skill if we can not cure the diseases of teeth and preserve them for those who are looking to us for relief we

have no professional claims, barbers and blacksmiths can wrench or tear from the socket a tooth, and disfigure the human face, but the true dentist must be able to cure disease and restore natural conditions and then and not until then can we claim to be a learned profession.



## Temperance Proper.

Webster's unabridged dictionary says the meaning of the word intemperance, in a general sense, is want of moderation, or due restraint; excess in any kind of action or indulgence of appetite or passion which is injurious to the person or contrary to morality, such as intemperance in study or labor, in eating or drinking, or in any other gratification.

I am aware that nearly all the arguments upon intemperance are confined to discussing the evil effects of alcohol. I do not here dispute any of their claims in this respect—far from it; but I intend to discuss this subject frankly, in the broadest sense of the term.

The *genus homo*, or man, endowed with reason is highest in the animal series. Thus endowed, he is supposed to be capable of judging what is best for him to eat, drink and wear, while animals in this respect are governed by instinct, and have succeeded admirably in keeping themselves in the enjoyment of health and physical perfection during the time allotted them, when they have not been controlled by the man of reason. But how has man, with all his reason, succeeded in the enjoyment of health, or in resisting disease and degeneration? His endeavor in this respect has been a failure. And why? Simply by being intemperate;

not in any one particular way, but excess marks almost all his actions. I will admit that there are exceptions to this rule ; but most of us have some particular intemperate habit that is foremost. We are governed more by our perverted appetites than by our reason. I need not draw a picture. The fatal effects of intemperance are familiar to us all. They are imprinted upon a large portion of our people. Any person of ordinary intelligence cannot fail to see that our habits of excess are undermining us as a nation.

What are some of the most destructive of our intemperate habits? The use of ardent spirits has caused a large share of misery, suffering and death. I need not repeat the story of the husband, father or brother staggering home from the den of drunkenness, where he has allowed his appetite to override his reason—for the first time, perhaps—and from step to step continues to go down, until disgrace, disease, and finally death, overtakes him ; or of the broken-hearted family, in poverty, rags and despair, without money or friends. This is the surface-water of intemperance. I need not produce figures to convince you of its dangerous results. Shall we draw a curtain here, and say the rest of our intemperate habits are not worthy of our notice? or shall we take a rational view of this subject? If so, I will first speak of the intemperate use of tobacco ; for, if we use it at all, it is intemperate.

## TOBACCO.

Allow me here to draw a line of distinction between the use of the two articles spoken of. In the first place, the use of wines and spiritous liquors, as a valuable medicine, is uncontrovertible. But how is it with tobacco? While the intemperate use of liquors may be contracted by its moderate use for medical purposes, this cannot be claimed for tobacco. I do not propose to dispute its medical properties; that it may be used in some cases as a medicine with advantage, is doubtless true; so may a large percentage of poisonous drugs. Tobacco is a very active narcotic poison, and never should be indulged in by a healthy person any more than cathartics or emetics.

The increasing use of this poisonous weed is alarming. I say poisonous. Let us see whether we are correct. Dr. Alcott, who made many experiments, gives the following results, which have been confirmed by many others. He says that by the ordinary process of distillation, an alkaline principle, called by chemists nicotine, is obtained. A single drop is sufficient to destroy the life of a moderately sized dog, two drops will destroy the largest and fiercest, and small birds perish at its bare approach.

There is another oil obtained from tobacco by distilling at a temperature about that of boiling water. It is of a dark-brown color, and has a



smell exactly like the old and strong tobacco pipe. A drop of this introduced into the system of the cat causes death in five minutes. These experiments have been repeatedly verified.

Another writer says that one drop of oil of tobacco destroys a full-grown cat in five minutes; two drops on the tongue of a squirrel destroys its life in one minute.

Mr. Barrow, the African traveler, assures us that the Hottentots use this plant to destroy snakes. This is the most appropriate use I have yet seen for this weed. "A Hottentot," says he, "applies some of it from the short end of his wooden pipe, to the mouth of the snake while darting out its tongue. The effect was as instantaneous as an electric shock. With a momentary convulsive motion the snake half twisted itself and never stirred more."

"The tea of twenty or thirty grammes of tobacco," says Dr. Massevy, "introduced into the human body for the purpose of relieving spasms, has been known repeatedly to destroy life." Dr. Beach says that even when used in moderation, tobacco produces dyspepsia, headache, tremors, vertigo, and epilepsy. "It produces," he again says, "many of those diseases which are supposed to be seated in the nerves."

Ex-Bishop Ames, of the Methodist Episcopal Church, not many years ago expressed to the New England Conference his opinion that a large por-

tion of the fund for superannuated preachers is paid to men mentally and physically disqualified by the use of tobacco. One of the members of the French Academy of Medicine, in a very elaborate paper drawn with great care, asserts that statistics show that in exact proportion to the increasing consumption of tobacco, is the increase of diseases in the nervous centers—insanity, softening of the brain, and all nerve diseases.

A German physician states, in a periodical published not long ago, that of the deaths occurring among men in that country, between eighteen and twenty-five years of age, one half die from the effects of smoking. He unequivocally asserts that tobacco burns out the blood, the teeth, the eyes and the brain. I might continue this evidence from men who have made this subject a study for years, backing up their assertions by actual experiments scientifically, with years of experience ; but what effect would it have upon tobacco users ? No more than it has upon the habitual drunkard to tell him of the fatal results of alcoholic liquors. The increasing use of this poisonous and useless weed is alarming. The little boys, as it were, are only to become possessors of a cigar in one corner of the mouth to become men in their own estimation. When we look at it from a rational standpoint, we cannot comprehend how or why a civilized people should adopt the filthy habit of the savage, and use it more excessively than the savage himself. It is no common

thing for men of respectability and influence, who would not even take a drink of alcoholic liquor, to smoke from three to ten cigars daily, and oftener the larger number, without even thinking they are intemperate. Others carry a large roll of it in their mouths, and the salivary glands are so much excited that the person is obliged to spit every five minutes, to his own injury and the disgust of those about him.

I was riding in an omnibus a short time ago, and my attention was called to a small, poorly-clad, bright-eyed boy, standing on the steps stealing a ride, as they often do, with his mouth full of tobacco, chewing and spitting. I kept watch of him until I caught his eye. Smilingly I said, "Bub, what are you chewing?" "Tobacco," said he. "What are you chewing that stuff for?" "For fun," said he. "Now, my little fellow," said I, "if you don't stop using it, it will use you up." "It didn't use the old man up," said he, "and he has used it ever since he was five years old."

Here was evidence to him, as to many others. How often we hear expressions like this: "Mr. So and So has used tobacco all his life, and is nearly a hundred years old." Is this really any evidence? If so, the same rule will apply with the use of liquor; for we see hundreds of these old steady drinkers. The truth is, they are like the survivors of a great battle; they have passed through the danger; the trying influences upon their systems

have passed, and the habit has become a second nature to them. Hundreds, yes, thousands, may have died in the struggle. Where one person has the constitution to live through, thousands have gone to their long home.

Hundreds of men who would look with scorn upon the man who would drink, even moderately, in public, have no scruples in going into a tobacco store and buying a large roll of tobacco, putting it into their mouths, and walking down the street with an air of importance that would do credit to a king. Is it strange that boys will smoke when they see the importance this tobacco gives to men? I tell you, my friends, the time has come to lay aside all prejudices and look this temperance question square in the face. Be reasonable and rational, and you will not have to look far from home to commence the reformatory movement.

It might be interesting to some of you to know that smoking and chewing are not the only ways in which this plant is used. There are the snuff takers—many of them among the ladies, I am sorry to say. There is also snuff-dipping that is indulged in quite extensively in some of the Southern States. Snuff-taking is considered more respectable than dipping, but it is hard to say wherein. It is all for the effect it produces. The man who solaces himself with a fine Havana cigar considers snuff-taking and snuff-dipping detestable, and cannot imagine what makes women do such

disgusting things ; and the man with a streak of tobacco juice running down the corner of his mouth, will bring evidence to prove that smoking is more injurious than chewing.

There is a class of people in some parts of Switzerland who roll up the tobacco and crowd it up one nostril and receive the delightful effect by its coming in contact with the mucous membrane of the nose.

Can any one doubt that tobacco in all the various ways used has broken down more useful members of society, and destroyed more lives by undermining the constitution, than liquor itself? If you doubt it, give this subject your attention for the next five years, and your doubts will be removed.

The use of tobacco lays the foundation for all manner of disease ; it creates an abnormal condition of the system ; it destroys its vitality in proportion to the amount used ; and, by debilitating the functions, various diseases attack the habitual user, thus endangering, and even destroying, life itself, to say nothing of the degrading influences that are sure to accompany it.

#### INTEMPERATE EATING.

I shall next speak of intemperate eating. Very few give this part of the subject any attention. In fact, they never once thought of being intemperate in eating. Of course, a man has a right to eat when he pleases and what he pleases. This is the

general impression. But the next question that arises in our minds is have we a right to be more intemperate in our eating than in drinking or smoking, or any other excessive indulgence that is an injury to our physical health and happiness? And if I say that more people die annually from intemperate eating than from any other intemperate habit,—yes, I can safely say all other intemperate habits spoken of in this paper, this may seem like an exaggeration, but let us see if it is really an exaggeration.

Who shall be the first witness in the examination of this subject? Let us call Dr Dio Lewis. He says, in his last work upon the subject, that gluttony counts a hundred victims where drunkenness counts one. "I expect," he says, "within a score of years, as much interest among men in regard to the healthfulness of the food upon which the children live, as they now feel about the diet of their calves and pigs. As soon as they believe that the food which the children consume determines the character of their digestion and blood we shall have a basis for operation; but they will not believe it yet, and so you see the little folks are at all hours munching indigestible food."

The world learns but slowly, even from experience; so when we declare that the present system of food is full of harm, we are confronted by the old blind prejudices. They say now of your brown bread, "Moonshine for me." There are thousands

of pale, listless, indolent, unhappy young ladies, who might be changed in a few months into active, muscular, happy girls, by changing their dietary. Thus intemperate habits are not confined entirely to young people and children.

There are hundreds of adults who are suffering the tortures of the damned from excessive eating, and do not know what is the trouble. Our whole system of cookery is pernicious. The ingenuity of the age is taxed to the utmost to find some fangled dish that will tickle the palate and induce us to eat more than is necessary to support the regular wear and tear of the system. You say, where is your proof that intemperate eating is destroying so many lives? Proofs have been given beyond doubt as to the quantity and quality of food required to support the human body in health, and all eating over this amount is an injury. Our manner of living has made us as intemperate in eating as the habitual drinker is in drinking. Their energies are absorbed in gratifying this appetite for drink, while ours is longing for something good to eat. While they make drunkards of themselves we are making gluttons of ourselves.

I once knew a man who would eat a small pan full of bread and milk, or other food in proportion, for dinner, and then ask how long before supper would be ready. He did not know enough to come in when it rained. His whole nerve energies were at work trying to digest his food. His mind be-

came paralyzed, as it were, and he gradually became an idiot.

This intemperate eating does not have the same effect upon each and every individual. Some are tormented with dyspepsia, others with gout, some with rheumatism, sick headaches, vertigo, palpitation of the heart, and many other diseases.

Intemperate eating, as a rule, is the cause of nearly all our other intemperate habits. It produces an abnormal condition of all the functions of the body. We become diseased, and resort to rum, opium and tobacco as a stimulant, for relief, and from this to Allopathy, Homœopathy, Eclectic, Magnetic, Old School and New School, and all other schools of medicine, say nothing of the money spent for patent medicines. It does seem as if the whole human family were raving maniacs, bent upon self-destruction, and those who do take their lives one way and another, instantly, are but the impatient few who cannot wait the popular method of intemperate indulgences—some in one way, some in another, each one thinking how unfortunate it is that his neighbor has contracted such destructive habits, while in fact he himself is more intemperate in some other way.

Children all about us are dying with liver and stomach difficulties, caused by this unnatural manner of living. Parents charge the death to the hand of Providence; they never once stop to think that there are established laws regulating all these things, which they cannot violate with impunity.



Many of us inherit these artificial appetites from our parents, who have been imprudent. • Others have gradually grown into them through indiscretion of parents; the mother, perhaps, has eaten too stimulating food while nursing the child, or the child has been overfed or eaten too stimulating food until the normal condition of the stomach is no more. I have no hesitancy in saying that twice the food is consumed necessary for the natural growth and development of the child, in most cases. This is the cause of many diseases, much suffering, and not unfrequently of death; and the life-long misery of those who live after having become physical wrecks cannot be described, with constitution destroyed or worn out, not by hard labor themselves, but the stomach has performed labor enough for a person a hundred years old, and begins to think it has fulfilled its mission, and the unfortunate must be content to about half live and drag out a miserable existence. If his infirmities had been brought about by the intemperate use of liquor, it would be considered a disgrace; but if he is a confirmed dyspeptic through his own intemperate habits of eating or other excessive indulgencies, he is as much respected as he ever was. Will some one please explain the difference in the offence or the violation of law? I can see no difference, provided he has conducted himself as well morally in one case as in the other.

Some one asks, How should we live to produce

the best results and avoid this intemperate eating? Eat a moderate quantity of good, nutritious food, in as near its natural state as possible, at regular hours. Use no tea, coffee, alcoholic beverages, opium or tobacco, unless needed as medicines.

In regard to the particular course of diet, there is no rule that will apply to each one under all circumstances. Each person, by studying cause and effect, will in a short time know what food is best adapted to his or her particular nature. This is now understood by thinking men and women. The great trouble is to have control over the perverted appetites that have grown up with us from bad management.

I always had considerable curiosity to know what were the habits of some of the most energetic and successful men of our day. I find the first quality essential is firmness and determination of purpose. Be sure you're right, then never yield to appetite or passion. This determination of purpose must be rightly enforced in governing our appetites and passions, or success in the world in whatever sense we may strive, either for pleasure or business, need not be expected. For example: A. T. Stewart, who has such a world-wide reputation as a successful business man, and accumulated a great fortune, was a man of great determination of purpose, with perfect self-control and self-possession. In the early part of his life, I am told, he found he could perform more labor by eat-

ing two meals a day. He sacrificed his appetite, which no doubt required something of an effort on account of established custom. It proved highly advantageous to him, as his whole energies could be used in business affairs instead of being required to digest big dinners.

Men who do muscular exercise in the open air can eat three hearty meals to their benefit; but persons of sedentary habits, in the majority of cases, are better off with two. I might say much more on this branch of our subject, but we must speak of some of the other intemperate habits of man.

#### OPIUM EATING.

I shall next speak of the intemperate use of opium. I should like to treat the subject at length, but can only touch briefly a few of the many excesses.

Opium is the inspissated juice of the poppy, and is grown chiefly in Asia Minor. It is obtained by making an incision in the poppy. This is the opium in its raw state. It is changed by chemists into various forms, but never loses its narcotic principle or property. It relieves pain by benumbing the sensibility of the nerves. In other words it diminishes the vitality of the system until pain and suffering are lost in a dreamy sleep. It is used by medical men for this purpose, until other remedies slower in their effects, can be brought to bear. It can, no doubt, be used with beneficial results in

many cases ; but the injury produced by its injudicious use has caused more harm than all the good it has done in giving relief. It is owing to this reckless manner of using opium that so many become its abject slaves.

There is no doubt that many physicians are guilty of a too free use of this drug, causing great injury to persons by its poisonous effect upon the system, and by creating an appetite for the destructive poison.

Have you ever witnessed the agonies of one of these excessive opium eaters when deprived of its use ? If not, you have no conception of its terrible effects upon the human system. I shall never forget the appeal made to me by one of these unfortunate creatures—a woman. Her husband had exhausted every persuasive means without effect, when a notice was served on every druggist in the town not to sell her opium in any form. The depressive effect of stopping at once had driven her to desperation, and every means was tried to obtain that which seemed to be her very existence. Her face wore the expression of one in great distress, trembling with fear, as though death itself were staring her in the face. Approaching me she said : “ I want you to do me a favor. I must have some opium, and the druggists will not sell to me.”

I informed her that I felt very sorry for her, but that I had no right or authority to give her what had already produced her conditions of mind and

body, and soon would prove her death if continued.

It was a terrible sight to see the tears coursing down the care-worn face as she begged and pleaded with me to get her some of this fascinating poison.

I have seen drinking men have delirium tremens, with imaginary snakes coiling about them, with pictures of the devil and all his imps before them ; but the depicted suffering of this woman made an impression upon my mind that I shall never forget.

Is there any effort being made to stop the use of opium ? It is destroying the lives of thousands and sowing the seeds of dissipation to those yet unborn. Its effects upon the system are congestions of the brain and sleep, diminishing the secretions of the internal organs, as well as the bile and urine, which causes constipation. In fact, all the secretions of the body are gradually dried up, and the habitual user becomes a living skeleton. In this way life is diminished gradually, until death relieves the sufferer.

The cost of importing this drug is about fifteen million dollars annually. And if the estimates of reliable druggists and physicians approximate the truth, fully three fourths of this vast amount is consumed by the opium eaters of this country. Next to the excessive habits spoken of in this article there is probably no evil that is dragging a larger number of victims down to premature graves. And were its effects as well known as those of alcohol, there would be a crusade against its use, even for

medical purposes, until it was entirely prohibited.

Suffice it to say, the increasing demand for this article is as astonishing as it is true. It is used by a large portion of people who call themselves respectable, and is no doubt used more on account of the small amount needed to produce the desired effect, and the fact that it can be used in secrecy.

#### TEA AND COFFEE.

I shall now briefly call your attention to the temperate use of tea and coffee. It is estimated that every person drinks, annually, fifteen hundred pounds of liquid. All this is filtered, as it were, through the human system leaving whatever poisonous properties they may possess. How essential then it is that we pay particular attention to the quality of the liquids we use. Nothing can be purer or better for man or beast than pure water as designed by Nature.

Tea was introduced into Europe in the sixteenth century, and was first used by invalids and by old and infirm persons as a stimulant, like many other habits that have grown out of their use in sickness until the appetite was formed, and they have gradually grown upon us until we are a nation of tea drinkers. A table is not complete unless this article of drink is present. And now well persons drink it until they are sick, instead of sick persons drinking it until they are well ; and even little chil-

dren are allowed to sit at the table and sip their hot tea like grandmothers of eighty.

“How does tea injure us?” I often hear people ask. Because it is unnatural. Hot drinks without any tea are injurious. It was intended that we should drink water as well as take our food at its natural temperature. I have watched, with considerable interest, the effects of hot slops upon cattle. They always become more or less diseased. Their teeth decay, their gums become inflamed, sores often break out all over the body, and their tails often drop off. Now, this may not all be attributed to hot slops. Improper ventilation and unnatural food combined, have their effects upon the animal economy; but, of the three, the hot conditions of the food are the most destructive; that is, its effects would be first seen. Combining the effects of tea in the way it is now manufactured, upon the system, with the effects of hot drink, and we have an explanation of many of the ills that human flesh is heir to.

Dr. Dio Lewis says: “While I have no doubt that both these drinks” (speaking of tea and coffee), “may, if used occasionally, and even regularly, by aged people, be free from objection. There can be no doubt whatever that the present enormous consumption of strong coffee and tea is the source of many maladies and much suffering. For example, there are many cases of periodical headache that may be cured by abstinence from tea, while thou-

sands of cases of fulness of the head, and palpitation of the heart can be cured by abandoning coffee. There is no doubt that neuralgia and nervousness are the product of, or are aggravated by, these drinks."

The distinguished Dr. Frother says the only cure for nervous maladies lies in total abstinence from fermented liquors, tea, coffee, and all other narcotics, and he claims that tea and coffee are as bad as any of the others spoken of.

Dr. Bell says the effects of coffee upon the nervous system and bowels are pernicious. A distinguished French physician says that coffee should only be used in cases where spirituous liquors are admissible, and further, that coffee has contributed strikingly to the destruction of our constitutions, producing debility, convulsions, palsy, vertigo, and many other disorders.

Another distinguished writer says coffee produces fever, anxiety, palpitation, trembling, weak eyes, and apoplexy.

Dr. Alcott affirms that neither tea nor coffee makes a particle of blood, or gives a particle of strength; while their use is followed by a corresponding depression. He also affirms that tea drinkers often lose their powers of self-control and do and say many things which in their cooler hours they deeply regret. I might bring much more evidence to prove the injurious effects of these two articles upon the system, but it is not necessary.



Now, if we are correct in our diagnosis of intemperance, we are surely an intemperate people. And why should we murmur or complain at our infirmities, when we have not the moral courage to stand up and fight our perverted appetites?

There are many other intemperate habits not spoken of in this chapter, that are dragging humanity down to premature graves. Hundreds and thousands are dying all around us for the want of a proper knowledge of the conditions of health and long life. Thousands are dying for the want of courage enough to resist temptation and control their appetites and passions. Yes, each one of us has quite enough to attend to at home to see that we live within the bounds of temperance. If we can help each other in the true spirit of manhood and brotherly love, I have no objection, and am always ready and willing to lend a hand. But shall we compel any class of intemperate persons to stop these shameful and destructive habits, when we ourselves are practicing intemperance perhaps more destructive, but in a more quiet manner? For instance, shall we legislate the use of tobacco or opium out of existence, compelling men and women to stop its use, when we ourselves are intemperate in the use of tea and coffee? Our children are dying from over-indulgence of hot teas, confectioneries and sweetmeats, and we are sick with dyspepsia, cross and mulish, allowing our passions to run away with our brains, until we are

physical wrecks. Are we any better than the man who cuts his life short by over-indulgence of the cup?



## ARTIFICIAL TEETH ON PLATES, AND THEIR EFFECT ON THOSE THAT WEAR THEM.

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CONTRIBUTED.

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Their presence changes Nature to such a degree as to make good digestion and assimilation impossible. Starch, being amongst the most important of single articles of food, is indigestible by such as are compelled to use them; and to call to mind the great proportion of starch contained in our common grains, used all over the world as food for man, I present a table of the percentage of starch contained in them: Wheat, 66.81; corn, 67.55; rice, 88.65; rye, 64.65; barley, 66.43; oats, 60.59. A glance at this table shows how large a portion of these grains is indigestible by persons wearing plates in the mouth, and makes it obvious how extensively they are deprived of an important element of food which enters into so common consumption. 400,000,000 of the inhabitants of the earth subsist almost entirely upon rice. Now, 88.65 per cent. of this substance being starch, and the average dentist incapacitating his patients from the power to digest starch, it is extremely fortunate for them that the so-called dentist is foreign to their soil; otherwise they would

breed a famine in their land such as would end in their final extermination. But in our great sympathy for the heathen let us not forget those who are now the real sufferers—our fathers, our mothers, our brothers, our sisters, our wives, our sons, our daughters,—no, not even the stranger within our country, who soon becomes infected with the popular mania, the insane, suicidal, wicked, inexcusable mania, which teaches that man can destroy a vital portion of the human body and set in its place different conditions and things so entirely at variance with the original design of the Creator, as is done in the substitution of teeth on plates, without completely defeating the original design, which was calculated to and did enable men to repair all waste caused by active life duties, simply by the intelligent exercise of the organs of nature according to the law of Nature, which enabled him to derive continued energy, power and life by digestion of other forms of organized life; for while it is known that plant or vegetable can digest and assimilate mineral substances direct from the soil, animal life can only in her best estate, which would be before the introduction of plates of false teeth, digest mineral substances until they have been quickened by some other form of life. So man is more dependent for continued existence upon the lower forms of life than this type upon man. Vegetable life, it is true, cannot be made to continue its existence to maturity independent of the soil, but im-

plant its roots in mother earth and give it water to drink and air to breathe and it can healthily appropriate both unformed and formed material to its growth. It appropriates readily animal, vegetable or mineral substances as food. Certainly the animal and vegetable substances are capable of being digested and assimilated by any form of vegetable life, after having first undergone decomposition or disintegration. Then when in the form of gases they are again absorbed and enter into new forms of life, or, in other words, it is vitalized. Now, what is vitality? We do not know, but we say it is the power to quicken or change dead or disorganized matter to a form of life, which is represented by the animal or vegetable appropriating it as food. Some say life is a chemical action, but it must be a vital chemical action, because this form of a chemical laboratory can accomplish what the same substances in an analytical chemists laboratory could not be made to approximate. One illustration will demonstrate this. We will take a kernel of wheat to any analytical chemist and ask him to test it for the purpose of determining whether it is acid or alkaline. He says it is neutral—neither acid nor alkaline. Touch it, it is found to be neutral, neither hot nor cold; taste it, it is neither sweet nor sour,—still neutral. Now, after all these tests, we say to the chemist, “Do you believe this substance could be changed into a substance that would dissolve silica, sand or glass?” You ask

the chemist. He must answer you no, "Because," he says, "you must remember silica can only be dissolved or liquified first by a powerful pressure or heat, and then must be combined with something else, or you must use the most powerful acids known, to dissolve it." This small amount of carbon combined with oxygen would not, could not, be converted into much heat, neither could there from it be formed but the smallest amount of acid. So he must tell you the quantity of silica this could properly be made to liquify by chemical process would be infinitesimal—so small as not to be perceivable by the naked eye. Now, we take another kernel of wheat, having the same natural properties of this one we have been experimenting upon, and submit it to a test in Nature's laboratory, and note the result according to the law of the Lord. We bury it to a moderate depth in the ground, give it a little water with which to moisten the earth or dirt, a little sunshine, and behold what wonders it can and does perform! It bursts forth a plant, as we say. It now has the property necessary to dissolve silica, which it proceeds to do without the formation of a substance capable of destroying its delicate life, which heat sufficient to liquify silica would have done. Neither has it formed an acid of sufficient strength to dissolve silica, otherwise this too would have destroyed its delicate and beautiful life. Then it cannot have employed either of these agents to accomplish its

end, neither pressure, the only other agent known ; but it has dissolved the silica, nevertheless, and spread it all over its beautiful stalk for the purpose of making it sufficiently firm to be independent of outside support, and for the purpose of protecting its delicate circulation within, thereby, that it might accomplish what gives the power of life, not only to its own species, but to make it possible for higher forms of life to subsist upon it after its death, and in turn they perform the same office, serving as food for other higher or lower types of life. Now, there are two lessons here taught us ; one is that vitality plays a part in all forms of life, which cannot be weighed, measured nor analyzed ; that is, it is and always must remain an unknown quantity, and incapable of being represented by an equivalent or substitute. Another very important lesson we will do well to mark here : No animal can digest and assimilate mineral substances unless the substance has first been changed or vitalized by some vegetable substance. Now, this silica covering the stalks of all vegetable life is, after having been once vitalized or used in plant life, capable of being digested and assimilated in animal life, where it is used for the same purpose as in vegetable life, viz. : to enable the body to maintain an upright position, and thus insure proper circulation. This is now called bone, and is in reality formed from salts of lime. And here let me repeat again no animal has the power to digest mineral substances so they

can be assimilated by its economy, until vegetable life has first vitalized it. Hence would we supply the deficiency of lime, salts or bone material in animal life, we must do it by the use of vegetable or animal lime salts, and the best way to do this is in Nature's preparations, just in the proportion she has made them, which is accomplished by using unbolted flour, meal, etc. Now, this lesson of the kernel of wheat and its vital process enables me to show you wherein it is possible by making the change from the type of Nature or of the natural teeth, with their natural, healthy surroundings, with all the secretory and excretory organs, secreting and excreting the exact quality and quantity of those substances designed by Nature for the purpose of fitting our food for proper digestion and assimilation by the balance of the digestive apparatus of which it is the source, fountain or beginning, and where the first vital act that fits our food for repairing waste tissue, or forming new, as the case may be, is accomplished. Now, if this, the first step, is made improperly, which it is, unless made in exact accordance with the law laid down at the creation of man, who, like all other types of life, was only created after the food upon which he was to subsist had been spoken into existence, so that man's digestive organs were fitted to supply the exact amount of secretion and excretion to fit our food in quality and kind to sustain properly in health and comfort every portion of this compound



existence. Now, it needs no argument to prove to every thinking mind that the radical change in the secretory and excretory ducts of the mucous membrane of the oral cavity, made unavoidable by covering these thousands of mucous glands, making it impossible for them to secrete or excrete this normal fluid at all from all portions of the mucous membrane covered by this false appliance. For be it remembered that in order to be retained this appliance, at least for the upper plate, must be made air and moisture tight, or in other words there must be created a certain amount of pressure to the square inch. Now, besides destroying the power to properly digest food, what must be the effect upon these delicate membranes, viz.: nerves, veins and arteries underlying this plate? Why, in many cases the whole of the soft parts, together with the bone forming the division between the nose and mouth, ulcerates and sloughs away, thus completely ruining the patient for life. What next? By the insertion of this unnatural appliance we have made it impossible for this unfortunate to talk or sing naturally. We have destroyed the beauty or harmony of expression of the features, for after the shrinkage caused or occurring after extraction the exact contour is never, with the most artistic dentures, fully restored, and what must be said of this cheap work with which the country is flooded, and the makers of which advertise as artistic, but which really has no more claim to or appearance

of art than has an owl to beauty? And how any lady can allow herself to be so distorted, disfigured and spoiled by these sharks, passes human understanding, when, if you make the effort, every tooth and root of a tooth aching, diseased or otherwise, can be made to do you painless and efficient service during life, and at the same time your beauty, youthful appearance and health be fully restored. And why any man, setting store by his wife's good looks, as all do, after seeing her thus mutilated, disfigured and spoiled beyond human redemption, does not speedily make one pretender less in the ranks of dentistry, passes my comprehension.

We have said that those wearing artificial teeth cannot digest the carbo-hydrates. Looking in the medical dictionary we find that the carbo-hydrates are starch, sugar, oil, gelatine, gum and flesh. Indeed there is no other element that is so characteristic of plant and animal organism, and it ranks as the only element never absent in substances obtained from the two kingdoms of organic nature. Only the proteine bodies undergo change in the stomach. What constitutes these albumen, caseine, gluten and legumen? The substance formed from them by the stomach is called "peptones." The formation of peptones takes place without the evolution or formation of gas. So that any excessive amount of flatus that may occur during digestion is the result of imperfect or deranged action of the stomach. The peptones are readily soluble in

water and diluted spirits. They are not coagulated by heat, and are diffusible through animal membranes. They are precipitated by tannic acid and bi-chloride of mercury, but not by any other metallic salts. Fat seems to be unaltered by the gastric fluid, but there is good reason to believe that it assists in the conversion of albuminous substances in peptones. In certain cases of disease there can be little doubt that various fatty acids are produced, and that they give rise to some of the most distressing symptoms of dyspepsia. Experiments have proved that no change takes place in the stomach in the other constituents of the food of man or animals, and that starch, gum and sugar are unaltered by its secretions. It is therefore generally allowed that the sole effect of the gastric juice is to change the proteine substances into peptones. The gastric juice, however, antagonizes, fermentation changes, so that its tendency is to prevent the formation of the lactic, acetic and alcoholic fermentations. When these take place they result from a morbid process. The conclusions at which chemists have arrived respecting the effects of gastric digestion on the various constituents of food, are confirmed by microscopical investigation. We have seen the gastric juice exerts no power over the carbo-hydrates which enter so largely into the food of man and other animals. On investigation, however, it will be found that as much care is taken to fit these substances for their

entrance into the blood as in the case of those composed of albumen. It has long been known that the secretion of the mouth converts boiled starch almost instantaneously into grape sugar. This action was stated by Bernard to reside, not in the secretion of the salivary glands, but in that of the mucous membrane. This was denied by Bidder and Smidt, for they found after the salivary ducts were tied, the secretion of the mucous membrane had lost its power of changing starch. The conclusions of these physiologists, derived from their experiments, were, first, that the secretion from the parotid gland merely moistened the food, and that the property by which starch is converted into sugar is only possessed by the combined secretion of the submaxillary glands with those of the mucous membrane. Now, having established the fact that without this secretion from the mucous membrane of the mouth, the man or animal has lost its power to convert the carbo-hydrates into food fit for assimilation into the system, let us next inquire what we are doing that will as assuredly destroy this normal secretion as that the light of the sun will expel darkness. Donne, who has analyzed the fluids of the mouth with great care, says the normal saliva secreted in the mouth is alkaline, but that from the mucous membrane is acid. Now, it is a well-known fact that the secretion from abnormal or inflamed mucous membrane is alkaline. Anything causing inflammation of this membrane would

deprive this secretion of its power to convert starch into sugar; for it is well known that in order to convert starch into sugar in the chemist's laboratory, it requires the use of a dilute acid and heat. And this inflammatory state of the mucous membrane has deprived the secretion of the mouth of its normal amount of acid. Prof. Judd says that not one person in a thousand wearing rubber plates but will be found suffering from inflammation of the mucous membrane. Dr. Walker says these rubber plates cause thickening of the mucous membrane; inflamed spots appear, growing from bad to worse, until they look like half spoiled beef cut across the grain. He also says, aside from their action on the mucous membrane, they cause the absorption of bone, which results in the breaking down of the processes. Dr. Morgan says, "I have seen but few large artificial plates which did not give trouble. It is not the natural condition of the mouth to be covered. Nature did not provide for the wearing of an artificial roof." He further says, "I have not observed disease resulting from rubber plates any more than from the use of others. I have seen the same from platinum, also from gold." Dr. Kulp says, "I and my professional friends examined 1,000 cases, in three-fourths of which disease was found." He says, "I have seen the worst results from silver. It is an unnatural condition of the mouth to be thus clogged." Dr. Jones says, "I am not an advocate for rubber

plates, but I have seen worse results from the use of gold than from rubber." Dr. Forbes: "My judgment is that a platinum plate will excite more inflammation than anything else." Prof. Judd: "There is no one engaged in extensive practice who will not find cases of daily occurrence. I have seen the worst cases of necrosis resulting from them. I have seen the palate, vomer and nasal bones entirely destroyed by them." Dr. Taft: "The aim should be to prevent disease." Dr. Cutler: "When a dentist extracts the teeth he converts the mouth from a physiological into a pathological condition. Is this all a dentist can do? If so, then God deliver the human race from these professional quacks and humbugs. If we could, after extraction, restore the mouth to its original condition, that would be conversion from a pathological condition to a physiological condition. But this you do not do when you put in your miserable substitutes on plates of any material."

Dr. Atkinson: "I am glad of all this discussion. Let us cry to be delivered from this thralldom of darkness, and be brought into the light of truth." He says, "I began by studying divinity, then medicine, then dentistry, and I contend I have been rising all the time. I have arrived at the truth. It comes to us as a voice from above that we extract no more teeth. We first break the law and then rush in where angels fear to tread, and try to mend it. It is marvelous the toleration of interference of

the superior maxillary bone. If it had not been the case, it would have been destroyed long ago, for it has received such treatment at the hands of the dentists as equals the horrors of Pandemonium itself. 12,500,000 false teeth are annually manufactured in the city of Philadelphia alone, and there are a great many teeth made in the United States outside of Philadelphia. Probably, taking the whole world, 100,000,000 substitutes are inserted annually, and ninety-nine one-hundredths of these substitutes are inserted on plates, and we have shown by the evidence produced of men standing high in their profession, that plates of every kind always cause inflammation of the mucous membrane, and frequently the whole mucous membrane ulcerates and sloughs off, followed by necrosis of the palate bones forming the roof of the mouth and floor of the nasal opening, the inflammation frequently extending to and destroying the vomer, soft palate, etc., and this inflammation also frequently extends to the lungs and stomach, causing inflammation and destroying these parts."

Now, we have shown that inflammatory action is always set up where plates covering mucous membrane are used, no matter of what material they are composed; they are an unnatural appliance, and by their atmospheric pressure, which is fourteen pounds to the square inch, obstruct the circulation to such an extent as to destroy the life, not only of the soft parts, but this also destroys the

periosteum covering the bone, and every surgeon will understand when this takes place, necrosis or decay of the bone, which has been deprived of its periosteum, will inevitably follow. Now, these most serious results do not all take place in every case. If they did, the wayfaring man, though a fool, would readily discern the cause of the trouble, and the cause, once made apparent, the masses would compel all engaged in setting up conditions invariably resulting so disastrously, to seek some other means of earning their support. But the worst of these do occur in many more instances than the general public have any idea of, and the worst of it is, no man or woman that lives, not even those claiming foresight, can tell who are to be the greatest sufferers, for all suffer great disabilities from using them, and when our hindsight forces this knowledge on the unfortunate wearer, it is then too late for any power on earth to restore them to health and comfort again.

I have shown inflammatory action is always present in all mouths wearing any kind of plates covering mucous membrane of the mouth. I have also shown that wherever there is inflammation of the mucous membrane, the secretion is changed from its natural acid condition to an alkaline. I have also shown that starch, the most abundant element in our food, cannot be changed to grape sugar except by using a dilute acid and heat. I have also shown that all reliable physiologists who



have investigated this subject have agreed that it requires the combined healthy secretions of the mouth, in Nature's proportions, to fit starch or any of the carbo-hydrates contained in our food for digestion in the stomach, fitting it for assimilation afterwards by the system controlling the furnishing of material for new growth, or repairing that waste of tissue which must inevitably constantly be taking place, sleeping or waking, as long as life continues. Now, this material can only be furnished by the digestion of food; digestion of food fitted for the proper support of our bodies can only be furnished by the machinery made by God himself. Therefore when some dentist proposes to show you some new-fangled way in which he can make such a radical change from the original design of the Almighty, and claims this wide departure is founded on scientific principles, and is such a vast improvement on the original plan of God, that when you have availed yourself of it all your earthly troubles are at an end. I admit he will set up conditions, if you will permit him, that will enable you to sooner try the realities of another world, but that it will lessen your suffering in this I do not believe. You may change its form and location, but these new-fangled teeth cut short human life. I say human life advisedly, for no animal will wear them, they having more instinctive sense, if less reason, and are too sharp to be deceived by these philosophers into wearing false plates of teeth, drinking

whisky, eating tobacco, opium, etc., but by obeying God's law and using Nature's food in Nature's proportions, they continue to have good teeth in spite of the wiles of these self-styled artists, whose productions I have said have about as much claim to anything artistic as an owl has to beauty. For what reason do people consent to lose their natural teeth? Always on account of their giving pain, or because some others have given pain. Those that have never given offense are extracted because they are teeth, and some teeth ache, and all would if brought into the same state; therefore the innocent ones suffer the death penalty. Because of the individual sins of their kind, would you execute a minister, a merchant, a lawyer, an editor, a carpenter, a baker, an author, a poet, a Board of Trade man, a gambler, an honest man, and a murderer, all because the latter had broken the law and there was no telling how soon all the others, having the power, might commit the same offense? Therefore while you think it necessary to execute the criminal, would you destroy the balance at the same time because it were not impossible that at some future time they might become like transgressors? I think I hear you say the very idea is horrible. So say all of us, but there would be as much sense exercised in pursuing this course as there is in sacrificing good teeth that have never given offense, because some member of the tooth family has, through reasonable cause, committed a breach of

your peace of mind. Therefore you resolve to destroy the whole family, root and branch, and the worst is that you do not have to travel far to find some fiend in human shape who, having no fear of God, no love for his fellow-man, stands ready for a few pieces of silver to convert you from the image of God, in which you were created, I had almost said to the image of the devil; but where devils dwell I remember it is written there is weeping and wailing and gnashing of teeth there, so he has even spoiled you for a first-class devil, and God having commanded that you present your bodies a living sacrifice, holy and acceptable, without spot, blameless, he has also spoiled you for an angel. He has also spoiled you for the highest enjoyment of this life, for he has made of you an incurable invalid. Henceforth you cannot digest the commonest food, your speech is spoiled, your beauty has departed, you are henceforth disabled for the performance of full manhood or womanhood; you are disabled in your powers of recuperation, and by this you are liable to be attacked by any disease to which impaired nutrition and general debility exposes the human family; and when once attacked by serious disease, your chances for restoration are small, because of your loss of this power to repair wasted vital force. In short, you have everything to lose and nothing to gain; the consequences following are evil, and that continually so long as life shall last.

But having shown conclusively that you have nothing but loss following the loss of your teeth, let us, my friends, for a little season lay aside all our preconceived notions about the possibilities of saving all these organs of the mouth that are so essential that the most vigorous health is never present in the body in which they are absent, for neither muscular power nor nerve force can be generated to the fullest capability of the body previous to their loss, after such loss has occurred. All nations reject men for soldiers who have many defective teeth, or who have lost their natural teeth, even if they have had their mouth filled with the best artificial teeth that the science of man has ever produced. And why? Not because of their hideous appearance, for they take some homely men; not because they are not capable of stopping bullets as well as others. No, none of these disabilities would disqualify them for good soldiers. Do they then lack courage? No. Cowardice has never been charged as a reason why they were not accepted, although many have been suspected of having their teeth extracted because they knew their governments would excuse them from doing duty as soldiers because of their absence. This might have savored strongly of cowardice in the eyes of some, but I think it would take more courage for me to stay in a community, even with the ladies to act as my body-guard, and have it known that of my own will I had set up a cause sufficient that my govern-

ment, if they did not brand me as a coward, would brand me as not a man. Then why are these branded as less than men? Wherein lies their disability? They have not the power left to digest sufficient food to enable them to perform the duty of a soldier. What a sad commentary is this on the every day practice of the average dentist who is busily engaged in changing brave men into something less than men, and fair women to something less than women, well knowing that like begets like and that the disabilities of the parents are visited upon their children, down to the third and fourth generation. Well might Father Atkinson exclaim: "We first break the law by extracting teeth, and then in trying to mend our error by inserting teeth on plates, we rush in where even an angel would fear to tread." My heart sinks within me when I think of the vast amount of injury that is being inflicted daily upon the human family by members of our profession, and that too by men making great pretensions to morality, and even to religion itself. I tremble when I think I too have been long engaged (through ignorance of the law governing vitality and the want of knowledge how to control inflammatory action when once set in motion) in destroying for my friends that which no power on earth or in heaven would ever duly recompense them for. And my thoughts went back to the time when in defense of my country's righteous cause I faced the cannon's mouth and heard its thunder, never suf-

fering a joint to tremble, and I thought, if my present course be good, why tremble now? If bad, why am I engaged in it? And I resolved, God being my helper, I would conquer the necessity for the extraction of human teeth in order to relieve pain from toothache. And this has been my prayer :

“ If I am right, Thy grace impart still in the right to stay;  
If I am wrong, Oh teach my heart to find that better way.”

I have found it and hope the whole human family will engage in singing hosannas of glad tidings of great joy. That the voice of the artificial plate-tooth man will be heard no more in the land after it shall be said of those they have spoiled: “The place that once knew them shall know them no more on earth forever.”



## CLIPPINGS.

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### Superstitious Notions About the Teeth.

There are many curious customs in relation to teeth in different countries. In some parts of Sussex, England, there is a superstition that if you put on your right stocking, right shoe, and right trouser-leg before the left, you will never have a toothache. To drink out of a skull taken from a graveyard ; to take a tooth from such a skull and wear it around the neck ; to apply the tooth to your own living but aching tooth ; to put a double nut into your pocket ; to pare your finger nails and toe nails, and wrap the parings in a paper—all are charms against the toothache. If you catch a male rat in a trap, cut off one of its paws, and wear it as a charm, you will “soon see the effect,” provided a right paw be used for a left tooth, and vice versa. When an aching tooth is extracted mix it with salt and burn it. In other parts of England there is a custom of calling the toothache the “love pain,” for which the sufferer is not entitled to any commiseration ; whether he or she fully assents to this may perhaps be doubted. Many other items of tooth lore have no connection with toothache. For instance, if the teeth are set wide apart, there will be good luck and plenty of traveling for the fortunate possessor. When a tooth is drawn, if you re-

frain from thrusting your tongue into the cavity, the new tooth to grow in its place will be a lucky one. Lady Wentworth, in a letter written in 1613 to her son, Lord Stafford, spoke of the efficacy of wolves' teeth, set in gold, to assist children in cutting their teeth: "They are a very lucky thing; for my two first ones did dye; the other bred his very ill, and none of ye rest did, for I had one for all the rest."

There is reason to believe that the Greeks and Romans knew something about false teeth. Mortal, in one of his Epigrams, said that Thais' teeth were discolored, while Leucania's were white. Why? Because the former wore her own teeth, whereas the latter wore those of some other person. One of the old Roman laws allowed the gold settings of false teeth, or the gold with which they were bound, to be buried or burned with the deceased. Dentistry was known in England three centuries ago. Belgrave's Mathematical Journal, published in the time of Queen Elizabeth, tells us that "Sir John Belgrave caused his teeth to be all drawn out, and after had a set of ivory in agayne." Ben Jonson, in his *Silent Woman*, published in 1607, makes one of the characters say: "A most vile face! and yet she spends me forty pounds a year in mercury and hogs' bones. All her teeth were made in the Blackfriars." An almanac, printed in 1709, mentions one John Watts, who was the maker of artificial teeth in Racket court, Fleet street.



Some barbarous nations draw the two teeth in the middle of the jaw. The sable females of Africa go still further, and one of the charms they are most solicitous to acquire is to have four teeth deficient—two above and two below. The woman who would want the courage to have them drawn would be as much despised as a young girl in China with feet the natural size. The Japanese women gild their teeth, and those of the Indies paint them red. A custom prevails among the Siamese to stain their teeth with a sable varnish, which they renew annually. In the Sandwich Islands, persons desirous of going into mourning paint the lower part of their faces black and knock out their front teeth. No doubt, this causes a very sincere kind of mourning for the time.

Some years ago all Germany was in commotion in relation to a rumor that a child had a golden tooth. Of course, it was an eye-tooth, and every one wanted to see it. The literati were exercised over the phenomenon. Philosophers and anatomists wrote essays and large volumes on the possibility of the event, and each ascribed the freak of nature to a different cause. But, somehow or other, not one of them ever thought of examining the tooth. If they had, they would have found that a shrewd impostor had covered it with leaf gold, with a view to exhibit the child as a prodigy. The tooth was subsequently examined and the trick of the showman discovered. The latter disappeared and the child sent to an orphan asylum.

In 1816 Lord Schwarterbury gave 16,595 francs for a tooth of Isaac Newton, which is now set in a ring and worn by the eldest branch of that family.

During the days of the resurrectionists, or body-snatchers, when graveyards were subjected to pillage for supplying anatomists with subjects for dissection, the teeth from the bodies formed a frequent article of sale to the dentists. Sometimes graves were opened for teeth alone, as being small and easy concealed articles.

Mr. Cooper, an English surgeon, relates an instance of a man feigning to look out for a burial place for his wife, and thus obtained access to the vault of a meeting house, the trap-door of which he unbolted. At night he let himself down into the vault, and pocketed the front teeth of the whole of the buried congregation, by which he cleared £50. Mention is also made of a licensed sutler or cantineer during the Peninsular war, who drew the teeth of those who had fallen in battle and plundered their persons. With the produce of these adventures he built a hotel at Margate. But his previous occupation being discovered his house was avoided, and was disposed of at a heavy loss. He afterward became a dealer in dead men's teeth.

Mr Catlin, who some years ago had an interesting exhibition of scenery, dresses, weapons, etc., noticed that North American Indians have better teeth than the whites. He accounts for the differ-

ence in this strange way, that the reds keep their mouths shut, whereas the whites keep them open. The teeth, he says, require moisture to keep their surface in good working order; when the mouth is kept open and the mucous membrane has a tendency to dry up, the teeth lose their needed supply of moisture, and thence come discoloration, toothache, *ticdoloureux*, decay, looseness, and eventually loss of teeth.

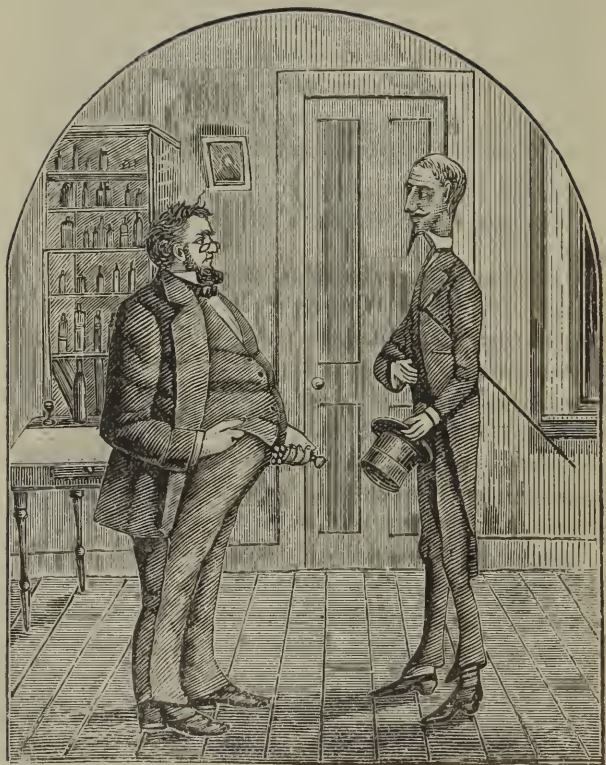
Shakspeare, in "Midsummer Night's Dream," says :

" For there was never yet philosopher  
That could endure the toothache patiently "

Shakspeare *once* had the toothache.

An imperial toothache once made the fortune of a poor barber. The Sultan of Turkey, having a touch of toothache, sent for the court physician. He was hunting, and could not be found. The domestic hurried about Constantinople, and at last found a poor, ragged barber surgeon; they took him to the palace, and furnished him with proper clothing. He drew the offending tooth, and soothed the pain of the Commander of the Faithful. A nice house and one thousand six hundred piastres a month were awarded to him.

"You are a foe to your life if you do not masticate well," says a Latin proverb. Those who have good teeth and do not masticate well, can profit by this lesson.



**The Fat Doctor and the Dyspeptic in Con-  
versation.**

A very eccentric, lean, long, lank, olive-colored

individual entered the office of a fat, jolly, good-natured doctor, the appearance of which is represented in the above cut, when the following conversation took place :

“Good morning, doctor.”

“Good morning, sir,” said the doctor, looking somewhat astonished at the peculiar appearance of the stranger. “Well, sir, what is the matter with you ?” (somewhat abruptly.)

“What is the matter with me ? Well, sir, I am the victim of misplaced confidence.”

“Misplaced confidence ! How so, sir ?”

“I have been ten years trying to get in a shape to make a good shadow, and you see how much I lack of being a respectable skeleton.”

“What has that to do, sir, with being a victim of misplaced confidence ?”

“You see I employed help to assist me.”

“I see ; it is the help you have reference to.”

“That is the point, doctor.”

“Who and how many did you employ to help perform this extraordinary feat ?”

“Let me see,” beginning to count his fingers ; “some ten doctors and six dentists. fifteen or twenty persons keeping boarding-houses—well, I cannot begin to count them, but every one I have had anything to do with have been trying to get up a corner on me.”

“A corner ! How so ?”

“By getting all the money they could, and doing

me the least good possible. You see I have been troubled with what the doctors call dyspepsia. The first doctor I consulted stuck to me until he got ashamed to take my money, because I was growing worse all the time—beautifully less, I believe he called it.”

“That must be the word,” said the doctor, smiling.

“So one morning when I called to see him he said I had a very obstinate case, and there must be something the matter with my teeth, and asked me if my teeth were good. I told him I had a root or two in my mouth that troubled me occasionally, although my teeth were generally good. He recommended me to a dentist, and said I must have those roots removed. I visited the dentist, and being somewhat feeble I took gas to save pain or shock, as I thought, but what was my surprise to wake up with all my teeth out. I cursed the dentist and threatened to prosecute him. He said he was a philosopher and he had done me a kindness. First he said I could not have tooth-ache any more, and then I said, ‘Cut off my head and then I will have no more head-ache, on the same principle.’ And then again he said I would not have to have them filled, and he could make me a set for half what it would cost to have filled them. Well, I made up my mind if that was good philosophy, I did not want any more of it. If I had been run through a threshing machine and fanning mill, and then been ground up

into flour, I could not have felt any worse. Now, then, to make a long story short, as I said before, I am a victim. I first got dyspepsia from eating hot bread and cake and indigestible food, and from that time on until now I have been seeking to find some one that can help me. I started in at two hundred avoirdupois weight; look and see what they have done for me. I have been from doctor to doctor, from dentist to dentist, from boarding-house to boarding-house, until I am a defunct specimen of despair."

"You are rather spare, whether you are defunct or not."

"Well, doctor, what I have come here for is good advice. I have got through taking medicine, and I learned you were a man of brains, and I just stepped in to pay you for a little talk."

"Take a seat, and let us carefully survey the ground, or, in other words, diagnose your case. In the first place, in order to cure dyspepsia you must remove the cause."

"You are going to exterminate me on the start. That is business. If the first doctor I visited had done that, what amount of suffering I would have been relieved of."

"Hold on, sir; you do not understand me. All diseases, of whatever name or nature, have their original cause. Now, then, to start with, if you have dyspepsia there was a cause why you were thus affected. If you can find out what that was,

and have the moral courage to stand up and fight it out, then you can get rid of the disease ; but not by taking medicine and continually following the same routine of habits that has brought you where you are."

"Say, doctor, that kind of talk suits me. I just think I understand you now. Yes, a vision of the past is floating now before my eyes, and there is a dawn of hope that gives me new life, new strength. Yes, I am feeling better now. I always looked upon man as a sort of machine, and I thought that medicine was the oil that run the machine, and supposed the bitter and more vile the better for the machine. I supposed a man could eat at any time anything he choosed, or do most anything if he only kept a little of this lubricating stuff around, and kept taking it."

"You see," continued the doctor, "there are a great many kinds of diseases, and the mind being the seat of government, so to speak, of each individual, if the mind is not in a proper condition the whole organization is consequently affected. Such diseases cannot be cured with medicine ; the mind must first realize the surrounding condition. It must first be brought to know the responsibility which is intrusted to it in controlling the appetites and passions. The first great problem to solve is the fact that all these things are given to us to use, but not to abuse, and that while a moderate use of them is all-essential to the health and happiness of



mankind, the abuse is correspondingly injurious. There is no reason why a man should swallow a whole cow because he enjoys eating a beef steak. The excessive use of those things given us to enjoy plays an important part in the economy of life and its full enjoyment. You cannot throw away every dollar you earn and have money in your pocket, consequently you must suffer sooner or later."

"Doctor, if you will allow me to use the expression, I think I 'tumble to the racket.' You mean me to understand that I have abused myself."

"That very nearly expresses it. You very well know, for an illustration, that a hogshhead, however full of water, with a stream as large as a gimlet constantly running into it, will not keep full long if the bung is knocked out of it."

"That is me. You have hit the nail on the head at last."

"Then again," continued the doctor, "if you had a wagon that would carry a thousand pounds and no more, you would think it very foolish to try and carry eleven hundred pounds, and find out at last you had broken your wagon? People are constantly over-taxing themselves until they break down—some from one cause, some from another. One has drank too many stimulants, the result of which is well known; another has over-taxed his capacity to digest food by taking in more than was required to keep up the natural wear and tear of bodily exertion. Others have used

tobacco to such an extent that their system is so thoroughly impregnated with the narcotic poison that they cannot perform the labor required of them to perpetuate health. Others drink such strong tea and coffee that they are constantly being prostrated from its effects upon the digestive organs as well as upon the nervous system. Another grade dress themselves with tight clothing, and interfere with the circulation of the blood and their digestion. Others want their feet and hands so handsome that they crowd a number eight foot into a number six boot or shoe ; then put the weight of the body on their feet, and waddle around in misery, to a great disadvantage, with but one idea in their minds : to have their feet look small and handsome. No person can succeed in business with tight boots or shoes ; it affects the whole nervous force, affecting the brain, exhausting the energies, and unfitting any person for business. Our manner of dressing has a tendency to interfere with and lessen the condition of health. When we take into account that it is through the pores of the skin that the larger part of this worn out refuse passes, after nature has made all the use possible and new life takes its place. It is estimated by physiologists that the average number of pores in the skin to the square inch is about 2,800, and the number of square inches in a man of ordinary size is 2,500, which would make the whole number of the pores of the skin 7,000,000. We can see how necessary it is that the body should have air."

"Air! I should say so. According to your description, doctor, about what portion of the food we eat and the water we drink passes through these numerous pores?"

"It has been estimated by nearly all physiologists that from one-half to five-eighths, or that about thirty per cent., on an average, passes off through the skin of a healthy adult every twenty-four hours, by perspiration."

"If I had known all these things before I would never have become the dilapidated, defunct, good-for-nothing individual I am now. I am growing more and more impatient, doctor."

"Impatient about what?"

"To think what a lot of fools average humanity is. They do not know how they are made or what they are made for, myself included. But go on; do not stop here."

"I was saying the body wanted air. Yes, it has the conditions to breathe, so to speak."

"To breathe, doctor?"

"Yes. These 7,000,000 pores spoken of do not occupy all the space to be occupied. There is another set of organs called absorbents. There are distributed through the system, a set of minute vessels, whose functions or business it is to absorb or take in. They act like a set of hungry little animals, and absorb everything that comes in their way, whether it be beneficial or poisonous. Now, then, when we clothe the body too close, and do

not give it the proper amount of air, or do not properly bathe ourselves, this worn out refuse spoken of, where the clothing interferes with the air coming in contact with the body to purify, more bathing is necessary, as those little absorbers are taking this poisonous matter, just thrown off, back into the system. They empty their contents into the veins, and consequently the blood is poisoned, and disease is the result. The cuticle or the first skin is intended as a protection to prevent these little vessels from taking up by absorption that which was not beneficial, but by the moisture from the body being held or confined by the clothing, the cuticle becomes soft and spongy, so that those little absorbers are doing what nature never intended them to do, and what they could not do did the body have the proper amount of air coming in contact with it. Take, for instance, the feet. They are crowded into a leather boot with no ventilation all day. If much exercise has been indulged in the amount of matter thrown off by the feet is astonishing."

"Well, I should say so, if the smell is any indication."

"The disagreeable smell, sir, is positive proof of the fact. I have been trying to impress upon your mind that these little pores, so numerous all over the body, are but so many little sewers to carry away the waste material, and keep the blood pure and thereby avoid disease."

"Hem! I see how it is. Why is it these facts are not taught in our schools first of all."

"I am sure if I had had these laws of nature instilled in my mind as I had many other things of less importance, the catechism for instance, I would now be a strong, healthy man, and could have worked out my own salvation."

"Yes," continued the doctor, "your remarks are correct. To violate a law of nature is to sin, the penalty of which is disease; and not to educate the young first of all, in this particular direction, is an unpardonable sin."

"Doctor, there are many things I wish to ask you, but I have already taken up too much of your valuable time. I have written out a few questions which I wish you to answer. I will leave them with you, and will call for the answers. Allow me to thank you for the interest you have manifested in my case, and the many valuable illustrations suggested, which has so thoroughly impressed me with the necessity of thinking for myself, and studying causes and effects. (Taking hold of the doctor's hand.) I will call to-morrow. Please answer these questions in writing (handing the doctor a paper.) Good bye."

The following are the questions spoken of, with answers to the same :

1st. "Is beef a wholesome food?"

"Yes, to persons in health. When the beef is properly cooked, and when it is not too fat, it is

very nourishing and very easily digested. It is much easier digested when it has been killed several days."

2nd. "How many times a day would you advise its use?"

"Once a day, by people having sedentary habits, is in most cases the best. But people performing manual labor can eat beef without injury."

3d. "Is mutton equally as healthy and nutritious?"

"Yes, when it is not too young nor too old; and with many persons it is much easier digested than any other animal food."

4th. "Is veal considered as good as the other two kinds of meat spoken of?"

"No; it neither affords as much nourishment, nor is it as easily digested as beef or mutton. Animal or vegetable food, as a rule, is not wholesome or, I might say, healthy, until it has become grown or matured."

5th. "Is pork healthy meat?"

"No; it is not considered so, and should not be eaten by people who do not lead an active and laborious life, chiefly in the open air."

6th. "Which is the most wholesome, fresh or salt meat?"

"Fresh meat is easier digested, and, as a rule, more wholesome and more nutritious."

7th. "Does smoking and drying meat injure its nutritious properties?"

"It does, in a very considerable degree, and it also renders it less easy of digestion."

8th. "What rank as digestible food has the common poultry?"

"The flesh of common fowl affords very excellent and nutritious food, and is easily digested by most stomachs, when properly cooked."

9th. "Are eggs a good food?"

"Yes, very healthy and nourishing, and easily digested by those with whom they agree."

10th. "Are oysters a proper article of food?"

"Yes. When perfectly fresh and eaten raw or are slightly roasted in the shell, they are very healthy and nutritious, and easily digested. But when cooked in a stew or fried in butter they are very hard to digest, if eaten in any quantity."

11th. "Do gravies, meats, jellies and similar articles, afford wholesome nourishment?"

"No. They are ranked among the least wholesome articles of a modern dinner table. To a weak stomach they are peculiarly pernicious."

12th. "What is the best mode of cooking fresh meat to render it the most wholesome?"

"By broiling or roasting, if properly done. It is, in this way, more wholesome, nutritive and easy to digest, when not over cooked. It must be rarely done, and the inside only eaten by persons troubled with indigestion, and in a moderate quantity."

13th. "Why is frying meat an objectionable mode of cooking?"

"Because the butter, oil or fat used in frying is converted by that process into a substance almost totally indigestible, and highly irritating to the coating of the stomach."

14th. "Which is the most wholesome and easiest digested, new bread or old?"

"Bread forms one of the essential articles of every person's diet. At least that or some other vegetable matter should always constitute a part of each meal, but it is not easily digested when new. Bread two days old is much healthier and more easily digested. Rice can be used as a substitute by persons troubled with indigestion in many instances, to advantage. Boiled rice, with a little salt and cream, can be eaten and digested by weak stomachs easier than most any other food. Rye bread is also very wholesome. All bread, of whatever kind, is better and healthier when made of coarse flour, as near its natural condition as possible. Indian or corn bread, also, when made from ripe corn, furnishes a very nourishing and easily digested food. Green corn is extremely indigestible, and affords very little nourishment, and those who exercise but little should not eat it."

15th. "Are salads, lettuce, cresses, and similar vegetables, as generally eaten, a proper addition to the general food eaten?"



"These vegetables afford but little nourishment, and are not very easy to digest. When seasoned with pepper, salt and vinegar they seldom disagree with persons in health, with proper exercise ; but when persons are obliged to confine themselves for any length of time to salt meat, such vegetables are almost indispensable."

16th. "Are cucumbers an advisable article of food ?"

"No. They afford little if any nourishment, and are very difficult of digestion. Pickles are equally as injurious. They lie in the stomach like lead, cause irritation and many times much trouble."

17th. "Should the food be hot or cold, to receive the best conditions?"

"The food should not be hot nor too cold, but of the two cold food is better than hot."

18th. "Is it wholesome to partake of dessert immediately after dinner?"

"No ; on the contrary it is in the highest degree prejudicial. A person is supposed to have eaten all or even more than nature required to keep up the regular wear and tear of daily exercise before he has arrived at the point of eating dessert, and owing to the variety of articles of which it is generally composed, and the fact that it is not needed, all articles of this nature interfere with and impair digestion."

"I believe I have answered all the questions requested, and hope they may prove of some use to

you ; but there are surrounding conditions and influences connected with each individual which makes it impossible to say what might or might not digest easily with this or that person, consequently we can only lay a general rule, and each person must be able to judge for himself. By carefully watching the effect of each article eaten, in this way they may soon be able to regulate their diet so that no trouble may be experienced, other things being equal. For instance all excitement must be avoided; the mind must be employed in some light work, not to fatigue ; the more pleasant and cheerful the occupation the better. No person can digest food or enjoy health any length of time that is cross and mulish. We do not live here to hate ourselves or others we may come in contact with. Learn to be satisfied with everything and surprised at nothing. Everything in this world is uncertain except death and taxes ; so take things as they come. Of course we must use our best endeavor to bring the best results ; but if we do not get them, do not take it to heart. This crossing a stream before you arrive where it is, causes much suffering and misery. As a general rule, when they get where the stream is it is easily forded, and all these sleepless nights, expecting to find a big river and get drowned crossing it, was a waste of time, a waste of nerve force, which exhausts the vitality and makes the person unhappy and miserable, and causes indigestion and a complication of difficulties. Of late there has

been a wonderful change, and the old adage that we 'live to eat' has been completely overthrown, and in place the saying has been reversed; we now eat to live. Mankind has for ages looked back to the forty days' fast to prove beyond a doubt the divinity of Christ. This alone was considered a great miracle; but this has been completely overthrown as a miracle by modern science and experience, as some five or six persons, to my knowledge, within the past six or seven years, have come to the surface that have abstained from food, some of them as long as forty-five days. Forty days seems a long time to go without eating, but every day after the forty that a man could exist without food was more of a miracle than the forty. Many people who do not doubt the fast first referred to, doubt all modern fasts. We have the sworn statements of five or six uninterested persons to the fact of some of these fasts. It is a very common thing for most people to believe just as they want things to be. Not only have we these few fasts to prove the possibility of a person's abstaining from food, but all over the country we are constantly hearing of intelligent persons who have been benefited by fasts. Some claim they have derived great bodily strength therefrom. A physician in Boston in the vigor of health becoming convinced he would enjoy life better if he ate less, gradually diminished his food until at the end of a few months he was taking a single ounce of food a day, and was gaining more than

that daily in weight, and experienced no physical or mental weakness from the effects of his fast. What is the most satisfactory about this new revolution is that it does not come from fanatics, but is advocated and demonstrated by men of high character and scientific attainments. It has startled the pet theories of medical men. This old and dangerous custom and theory that if a little is good, a good deal is better, has been exploded. It once was the practice as soon as a man was sick to begin to stuff him. On this principle the daintiest morsels, cooked in the most tempting style, are offered as a bait to induce the invalid to eat, thinking that with a hearty meal health must return. I have myself experimented to some extent, and have long since satisfied myself of the benefit derived from fasting and eating only digestible food.

“While fasting for a long time, with a person who is a great eater, might prove of great benefit, the same length of fast to another under opposite circumstances might prove of no benefit, but an injury; but that a fast of forty-eight hours, three or four times a year, to the majority of persons, there is no longer a doubt, would be most beneficial. By this system the needed rest of the organs of digestion would be had, and in the end much time and suffering would be avoided, as seven-tenths of the many afflictions humanity is groaning under would disappear, provided they did not make gluttons of themselves the balance of the time. Sick head-

aches, vertigo or dizziness, palpitation of the heart from a little exercise, asthma, phthisic, bronchitis, catarrh, bilious colic, shattered nerves, want of sleep, neuralgia, rheumatism, diseases of the liver and stomach, and many other diseases too numerous to mention, are either directly or indirectly caused by this persistent gorging of the stomach, and by abstaining from food four times a year or five, for forty-eight hours, just in proportion to the amount of abuse of the organ spoken of, would prove of benefit and avoid much pain and suffering. That a fast is the most natural or the best condition that can be obtained I do not believe, but that a regular diet of good wholesome food at regular intervals, in quantity only necessary to supply the demands of nature, is the most natural, and that the best results can be obtained in this way I am positive ; but as long as man is regarded as in the prime of health if he can eat three hearty meals a day, so long mankind will be better off by fasting from three to five times a year, for forty-eight hours, and will by the same prolong his life and happiness while here. An anaconda will swallow a whole animal and lie coiled up until nature has appropriated the material in store, when the necessity to supply the demand of nature compels it to seek more food. The average man keeps continually in the condition of the snake soon after swallowing its prey, but does not wait for nature to appropriate the same before again eating. Let any

one sit down to a table in a fashionable restaurant, and carefully watch and see what the well-to-do man or woman proposes to crowd into their stomach for dinner. An average would be roast beef with potatoes, bread and butter, eggs as side dishes, with butter and salt and pepper, cucumbers with vinegar and salt, corn and beans, or green peas, sometimes both, and nearly a pint of strong tea or coffee, and lastly, to wind up, pastries flaky with lard and highly seasoned, and the average time occupied in disposing of this would not exceed twenty minutes. Now, I venture to say that any one of the six or seven dishes eaten at this one meal would have been sufficient, if properly appropriated, to supply the demands of nature. Taking this as an average, the quantity eaten ought to enable the man to go without eating for a week ; and there is no doubt that by a little practice, so that the system may become accustomed to it, the person would enjoy better health and live longer than if he continued this stuffing three times a day. The cow-boy of the frontier and the untutored Indian of the forest have no trouble with their gastric juice or liver. They are not troubled with gout or rheumatism. They eat when they can get anything to eat, no matter what, if hunger is appeased. After following this custom of stuffing for the past two or three thousand years, from generation to generation, it is not to be wondered at that it is so hard to make the needed change.

I believe it requires as much, if not more, will-power to go without eating when hungry, as it does to stop drinking when in the habit of taking stimulants as a beverage. The stomach prepares itself as much as possible to receive this stuffing at the regular time, and the feeling of hunger then experienced is considered by many a positive proof that food is needed, when in fact it is simply from a custom, and entirely an abnormal condition."



## How Artificial Teeth Are Made.

The manufacture of teeth is a large industry. There are now twelve manufactories of artificial teeth that produce every year 10,000,000 teeth, or one to every five persons in the United States. Half this number are made by one firm, founded in 1844. The materials used are felspar, kaolin and rock crystal. The coloring is platinum, titanium and gold. The felspar and crystal are submitted to red heat and thrown into cold water. They are then ground in water until fine enough to float. Combined with the coloring, they are subjected to intense furnace heat in moulds of brass, which are in two pieces, each holding one-half of the tooth. The process is delicate, and has many interesting details. In the earlier history of the art dentists carved the teeth which their customers demanded, and apprentices were made useful in that way. The amount of gold used annually in filling teeth is \$500,000. Lead was used from 1778 to 1833. The filling of teeth is greatly aided by labor-saving machinery and cunningly wrought tools. This country makes dental instruments for the world wherever dentistry is known.



## Theories About Dental Caries; or, Decay of the Teeth.

There has been much time consumed in theorising as to the cause of the decay of the teeth. The theories are as numerous as the writers. That the process which produces disintegration of tooth substance is a chemical action, as generally accepted by the dental profession, I do not propose to argue; but that chemical action or any other action capable of destroying the tooth structure is an unnatural condition and must be present before this action upon the teeth can take place, I am positive. Then if it is a chemical action that destroys the teeth, what is the cause of this chemical action? This seems to me to be the all-important question. What does it avail us to spend our time talking about chemical decompositions, fungi or other conditions? if they are not the first cause, but the secondary effect. But little good can result from knowing the second condition if we cannot find out the first, and be able to remedy it. We could as reasonably say, the reason our apple crop failed was because the trees did not blossom. That would be true in a certain sense, because there could not be fruit without the tree first blossoming; but the reason the trees did not blossom was because its natural condition has been interfered with. So that we find back of the

failure to blossom lies the first cause of the failure of our crop. We can never find the head of a stream by commencing in the middle and wading down stream. For some little time some of the dental profession have gone wild over the discovery of a microscopical parasitic agent that they claim is the cause of the decay of the teeth ; that they are found in decayed teeth as well as around the natural teeth, when certain conditions are present we know. And that condition is where decomposition is taking place we know to be a fact ; but that they play any part in the decay of the teeth we have no reason to believe. They are simply scavengers. They also are a secondary condition, the same as the first spoken of. But what we most desire to know, and must know to be of any service to mankind in general, is the first cause of decay of the teeth. Why spend our time in talking about finitesimal organisms or chemical action, when the real cause lies in the disorganization of functions ? When we know just what is lacking to make up the combined whole of what nature intended us to be, with perfect assimilation and harmony of all the organs, decay of the teeth will disappear.

With these facts before us, we must associate these two questions of disease of the teeth and body under one head. It is the only rational conclusion we can arrive at, either hereditary or otherwise.

A disturbed natural condition of the functions of the body is the cause of all the decay of the teeth.

For instance, our bodies are continually undergoing a change. There is the continual wasting and wearing away by one force, while the other forces are building up to replace the worn-out or waste material, by new and healthy parts. Now, we have reason to believe that the process of building up is just as natural as that of wasting away, under certain conditions ; but the conditions are not always present, while those of wear and tear are here. Then we have a line of distinction. The wear and tear of the system, or even death, is not a mystery, but life itself is. Then if the body or any part of it,—the teeth, for instance,—are not keeping up this waste and supply process perfectly or if the conditions of supply are disturbed by imperfect food, indigestion and poor nutrition, or any other unnatural condition, then some of the weaker forces of life must necessarily give out, because the condition spoken of is not present.

Whether in infancy or adult age, the conditions of supply must meet the demand of each and every organ. Whatever organ does not receive this supply of material necessary for its support and growth, must yield to the surrounding influences, and become diseased for want of sufficient vitality to resist.

## WHAT IS YOUR NAME? OR, KNOWN BY YOUR WORKS.

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BY DR. J. E. LOW, CHICAGO, ILL.

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I believe there are in the United States between twelve and fifteen thousand so-called dentists. The question has often presented itself to me as to what portion of this number should be really entitled to the name dentist. To arrive at any just conclusion, we must first know what is expected of a dentist. Is he to simply extract what teeth come into the office, and replace them? I think not; but believe the more intelligent class of people expect more. It is generally understood, I believe, that a dentist should understand the anatomy of the face, so as to be able to treat whatever disease might arise from badly decayed teeth; and, more especially, he should have sufficient skill to be able to preserve the natural teeth, where it is possible to do so. I believe a man not having these qualifications has no rank or claim, in the proper acceptation of the name, in a profession where so much is possible and so little is accomplished. He may have the titles M. D., D. D. S., but these do not signify. A physician must be capable of curing disease to be properly and justly called a physician. It does not

require the title of M. D. to administer medicine, without being capable of properly diagnosing ; and such a one, instead of reducing the dangerous conditions, increases them. A surgeon may have the required skill to amputate a limb, and may advise its amputation, simply for want of proper knowledge to restore it to its normal condition. The same rule holds good in the practice of dentistry. Any pretending dentist can pull out or break off a tooth that aches ; but to reduce the inflammation and preserve the tooth are the all-important objects in view. I believe, not far in the future, the extracting of teeth, unless loose enough to be removed without forceps, will be considered quackery, simply because the operator must be deficient in the required skill to properly treat and preserve them.

The man that invented the relief of pain by extracting the tooth conferred a great favor upon humanity, because it was the best way then known ; but he who can relieve pain without extracting is greater beyond comparison. It has been estimated that over twenty millions of teeth are extracted in the United States yearly ; and that three millions of sets of artificial teeth are inserted annually. What an unnecessary sacrifice, and what a contrast with the substitute ! for, in most cases, a cheap rubber plate is used. We have but little conception of the amount of injury, suffering and loss of life that might be traced to this inhuman practice of extracting teeth by the wholesale. Who

is responsible for this so common unskilled work coming into such general use? Are these men that are now disgracing the profession responsible? I think not; but those capable of doing better work, who have become somewhat proficient in operative dentistry, are. Of late, as soon as a man becomes conscious of his ability to fill teeth reasonably well, though he does not acquire a sufficient amount to keep the wolf from his door, he could not think of so disgracing himself as to have anything to do with mechanical dentistry; so he sends them to some one who is less proficient to do this cheap work, and gives no thought as to how he could restore those teeth without the least inconvenience to the wearer, though it might require twice the mechanical ability to do this artistically than it did to do the filling, and the patient would willingly pay the required amount to accomplish such a result, when impressed with the necessity of doing so. I am speaking from experience.

I have, in the past five years, been trying to give my customers the best possible condition next to the natural teeth, and restoring partial loss of teeth permanently without plates. This necessitates considerable more expense than other work, on account of extra labor and skill required to produce the desired results. I have never found, during that period, any lack of patronage on account of the extra charges; but, on the contrary, business has been so pressing that I have had to keep not less

than four assistants, and sometimes five and six. This has demonstrated to my mind, conclusively, that the better class of dentists are responsible for this degraded and disgraceful condition of mechanical dentistry. They become too professional for the interests of their patronage. They will neither perform this skilled mechanical labor nor send their patients to those that do, as a rule ; but have them fitted out with a cheap rubber plate, and charge them for skilled labor. What has been the result ? The public have long since found out that this class of work can be made by men with a very small amount of mechanical ingenuity, so that they answer the purpose. They believe in going where they do this class of work, and charge only for doing it. This is the cause of the increase and prosperity of cheap dentistry. We must give value received. Every reasonable person feels satisfied when a piece of artistic work has been done—there is satisfaction both to the artist and the wearer. Money does not seem to play any part. Your bill is paid with satisfaction—no questions asked. Many in the dental profession have become disgusted with this state of things, and have advocated a division of operative and mechanical dentistry. There can be no division, except it be between the different standards of labor ; but no division, practically speaking, can be made between operative and mechanical dentistry ; for every operation performed in the mouth to pre-

serve the teeth is mechanical, and, as we advance in the art of preserving teeth, more and more mechanical ability becomes necessary. The blow-pipe is soon coming into use for this purpose. I have been making some very interesting experiments, in the past few years, in preserving frail teeth, when a large share of the labor has been performed with the blow-pipe, the appliance being made out of the mouth, and afterward put on. I have succeeded in saving teeth that could not otherwise have been preserved ; and then comes in the crowning of roots, which every first-class dentist will be expected to perform, which will necessitate the use of the blow-pipe in most cases ; no permanent crown ever can be properly set without its use ; therefore, I can see no division except between skilled and unskilled labor. Take away the mechanical genius of a dentist, and you must change his name and business.

In conclusion, we know there are many dentists in this country who are known by their works, and cannot be excelled ; but how is it with the majority of these fifteen thousand ? Are they capable of doing what is rightfully expected of them ? Let each one of us ask ourselves the question, and if we find ourselves deficient in any branch which goes to make up the combined whole of what a dentist should be, let us apply ourselves diligently until our name, title and degree will be visible in our work. The knowledge is what we want, and



must have ; if obtainable through our own exertion, so much the more credit is due. After gaining a thorough knowledge of the various branches, if we find ourselves more proficient in any one than in the others, then it is our duty to operate where we reach the best results for those in need of our services

## Restoring Partial Loss of the Teeth Without Plate.

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BY LOW'S NEW METHOD—DR. J. E. LOW, INVENTOR  
AND SOLE PROPRIETOR, FIRST NATIONAL BANK  
BUILDING, 164 DEARBORN STREET.

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This method consists in attaching permanently to the natural teeth or roots artificial teeth by means of water-tight, immovable, perfectly-fitting gold bands on either side of the space to be supplied, from whence it receives its support, as seen in cuts Nos. 7 and 8.

Heretofore artificial teeth have invariably been supported entirely by the gums, and usually upon a plate held in its position by suction, or by clasp attachments; but by this method the pressure in masticating is distributed upon the teeth and gums. By the method here suggested, the chance for an accumulation of filth is an utter impossibility, more than around the natural teeth.

The use of the plate for supporting the artificial teeth is highly objectionable, because they cover mucous surfaces which health requires should be uncovered; secondly, they occupy space within the mouth, and are generally uncomfortable. They also require frequent removal for the purpose of cleansing, or they generate disease. The use of

clasp to retain the teeth in position, by using small supporting plates, as in No. 1, has very generally been abandoned on account of injury to the teeth clasped, caused by the continual friction of the clasp against the teeth, and the suction plate has been substituted. The clasp is supposed to be more objectionable than the discomfort and inconveniences attending the use of the suction plate. But time has shown, I believe, that even suction plates, as they are generally used in close contact with the teeth, have destroyed more teeth than the clasp plate, as seen in cut No. 1, by causing recession of the gums, from being covered by vitiated, stagnant secretions, held there even when the usual degree of cleanliness has been observed. Then, again, teeth partially covered, as with the majority of partial plates made, where the plate sets close to the teeth, that portion covered near the margin of the gums become so sensitive that many times the patient insists on having them removed. I have known of many teeth being sacrificed on that account. I mention a few of these facts to show that there are many serious objections in our usual manner of supplying partial loss of teeth.

Where a person has been unfortunate enough to lose the full number of teeth, they must resort to the next best thing—be contented, like a person who has been supplied with an artificial limb, which is better than nothing, with all its objections.

Now, in presenting this subject, I am aware of the many objections that will be urged against its use by those who have not had the opportunity of investigating its merits. Notwithstanding, I claim to have surmounted and removed the chief difficulties that have proved so objectionable in supplying partial sets of teeth. These claims have not been hastily made, for I have been giving this subject my attention for over six years, and have now in actual service several thousand cases, from one to five teeth in a span, dating back from five and six years down to the present time.

My manner of doing this work is as follows :

Pure block tin, rolled into thin strips of about No. 28 in thickness, or less if necessary, in order to pass between the teeth, is used to take the impression or form of the teeth adjacent to the space to be supplied ; the tin is bent around the tooth and carefully pressed with flat pliers the length of the tooth, giving the perfect form of the tooth ; this is taken off of the tooth and cut by the mark made by the pliers, and used as a pattern from which a gold band is made. The gold should be coin, rolled out to 27, 28 or 29 stubs gauge, according to the strength needed, and is soldered together with the following formula for solder : To one pennyweight of gold add four grains of coin silver and two grains of *pure* copper ; this solder gives strength and a color not unlike the gold. These bands, after being carefully soldered, are fitted by being

driven slowly over the tooth with frequent annealings and cuttings of points likely to come in contact with the gum until it is the shape of the process. Then cut the outer portion where it might show a narrow band, leaving it full on the rest of the tooth until adjusted. Drive down to the gums but not under, cut off and bend over the crown of the tooth, where the articulation will permit (and there are few cases where the entire portion of the crown is used in articulation.) The bands being fitted, the teeth having first been covered with thin platinum, instead of backing, as usual, which extends over the crown or grating surface, invest the case in plaster and sand, and flow gold and platinum or the preparation of clasp material, until very heavy. This gives strength and will avoid the breakage of teeth in mastication, after which the teeth are arranged, being held in position by a compound of wax, gutta-pursha and rosin. After all are arranged to satisfaction, a plaster impression is taken of the teeth and bands. The bands are taken off and placed in the impressions, being particular to get them in proper position. Then pour with plaster mixed with asbestos or sand; and when hard cut out on the lingual surface until the wax is reached; carefully remove the wax, and solder the bands and backings and finish, being careful not to bend your bands in polishing. After the case is finished and ready for the mouth, great care must be taken to keep the

teeth to be attached dry. To prevent moisture I use gum benzoine, dissolved in alcohol, on the gums some distance back of the teeth to be attached to. The cement is then mixed by the assistant, who coats the inside of the bands and the teeth belonging to said bands. Should it be difficult while operating to keep the moisture out, a rubber dam may sometimes be used to advantage, and afterwards pulled from under the attachment. The success of the operation in most cases depends on the dryness as much as in gold filling. The teeth are now nicely malleted to their places, having previously been tried to see that all was right. Should moisture begin to make its appearance, varnish over with the benzoine at once; immediately afterwards use water; thus preventing the alcohol from injuring the cement. After the cement is sufficiently hard, finish by beveling and burnishing all edges close to the teeth. If near the front of the mouth the small rim of the band outside can be made to exactly resemble the common marginal filling.

These attachments are immovable, the bands being *water-tight*, not depending upon the gums for support, and leaving no possibility of offensive accumulation any more than around the natural teeth, and are as easily kept clean. In this description I have been speaking of restoring molars and bicuspid of either superior or inferior maxillary. In restoring one, two, three or four front teeth, the ordinary

plate teeth are used, resting the front of the tooth on the gum, leaving spaces between the teeth for cleansing. It is necessary to cover the entire lingual surface of the teeth to prevent possible breakage during mastication, the gold only showing on the inside.

In addition to this, there are many cases of elongated teeth, which soon become loose and troublesome for want of use, where it would be impossible to use a plate of any kind. In such cases the band attachment, connecting with a truss or bar of gold, is used with great satisfaction for masticating, as well as for preserving the tooth so elongated.

The general supposition is that teeth so attached to are injured, but experience has proved the contrary. I have yet to loose the first tooth, or discover any injury arising from such attachments, either from loosening or decay. I have removed many bands after two or three years, and some of four years' standing, and with the exception of the tooth being a little sensitive to heat and cold, no visible change had taken place ; and when the bands were again replaced this all disappeared.



## **Low's New Method and its Advantages.**

I feel compelled to introduce this method because I know it to be one of the greatest blessings to suffering humanity that has ever been brought to public notice. You ask why. First, because it does away with extraction of teeth, and gives to the wearer not only as good teeth for masticating his food as his natural teeth, but relieves him of covering the roof of the mouth, which is cumbersome as well as injurious to health. The preparation of food necessary for digestion needs the combined excretion of all the follicles, large and small, to properly simulate food, to perpetuate natural conditions. If you cover the roof of the mouth, you prevent this. Not only this, but many times inflammatory action is produced while the gums are covered, consequently to lose one's teeth is to become an invalid, with less chances to resist disease which human nature has at all times to contend with. It is easy to destroy; death is no mystery, but life and its perpetuation baffles human ingenuity. How, then, shall we solve the mystery? We do not hesitate to say that nine-tenths of all the diseases that human nature is heir to are caused by the deviation from natural laws and natural conditions. Human nature in its great search for happiness loses sight of the first principles that produce happiness. Teeth decay directly or indirectly



from unnatural conditions, the same as all other diseases are produced. Much of it may be handed down from generation to generation, but the first cause was a violation of natural laws. Many people get the tooth-ache by neglecting decayed teeth until the nerve becomes exposed, rush in to an unscrupulous dentist, and have all their teeth extracted because one aches, happy in the thought they are getting rid of pain, when in fact they are only multiplying their chances to produce more pain in another form which may prove fatal, and when their tooth-ache could have been stopped in a few minutes and the tooth restored to its original usefulness. What, then, does Low's New Method do? It restores all decayed and broken teeth or roots to their natural condition and usefulness, fills up all intermediate spaces, should there be any, without covering the roof of the mouth, and occupying the original space only. It does not interfere with the digestion of food by covering any of the excretory organs. It preserves the natural contour of the face, which is entirely lost by extracting; the voice is preserved in its natural condition; the eye-sight is stronger and better for not having the teeth wrenched out of their sockets, breaking these little fibrous nerves that are connected with all the nerves of the face. It prevents inflammatory action, by leaving free all the mucus glands in the roof of the mouth. In fact, Low's New Method assists Nature to perform its natural

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functions, instead of throwing obstructions in its pathway.

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### Facts About New Methods.

Most people are totally ignorant of the principle of this method, not knowing what is claimed for it, but condemn it on general principles instead of investigating its merits, and judging from reports of its enemies, whose lies and villainous slander is beneath the notice of a respectable person. The average dentist lives by prejudicing his customers against every other dentist and every other method except his own—the method taught him. He does not exert himself outside of the old and accustomed practice even to investigate. He has reached the end of the rope in his own estimation. Others who have more ability, through their egotism wish to impress upon their customers the fact that what they do not know is not worth knowing. They condemn everything they do not do, and as my process is patented, and they cannot use it without being liable to prosecution, unless licensed by me, of course the next best thing to do is to condemn it, to keep from losing their trade. Then again, others who would do this work provided they had been guaranteed the right, cannot do it, for to do this work successfully it requires the combined mechanical and operative manipulator of a grade seldom found.

So taking all in all, as the saying goes, "a drowning man catches at straws ;" to condemn the principle and keep what work they can, is the most natural. I am sorry to be obliged to tell the truth about these matters, but it is for my interest as well as the public's that they should know the facts. Any person of good common sense knows that it would not be to my interest to introduce this new kind of work at the risk of my own reputation, (which I believe stands on an average, to say the least, with the better class of dentists), unless I knew it to be the best. It was, I believe, in the eighteenth century, the first porcelain teeth were manufactured, but many years after teeth carved from the hippopotamus were used, and its advocates resisted with all the energy possible the use of porcelain teeth, notwithstanding the fact that the porcelain tooth was incorruptible and could not decay, while the hippopotamus tooth would, the bone being penetrated by the acids of the mouth, making the breath offensive in a short time. Later, in the nineteenth century, gold, silver and platina were used as a base for artificial teeth ; and from that time on some of the leading men began to make rapid improvements in dentistry, notwithstanding the opposition they had to contend with. Between 1845 and 1850 Continus' gum work was introduced, and after a time a few of the leading men in the profession adopted it, but the mass of dentists opposed it and do to-day, because it re-

quires labor and skill in that particular direction, that would not pay them to spend the time had they the ability. It no doubt has some objections, like all other artificial appliances used for artificial teeth. The best are not without their objections. Between 1850 and 1860 there was more gold artificial work done than ever before, and I think I can justly say, than since ; for about that time rubber was invented as a base for artificial teeth, but was condemned, and did not go into general use for a number of years. I might say it was justly condemned, for no sooner had this come generally into use than artistic mechanical dentistry received its almost fatal blow, for this opened a field for a low order of mechanical dentistry, and the talented and enterprising genius that was struggling to relieve the unfortunate toothless community through his superior mechanical abilities, and produce something better and less objectionable, and save all the teeth possible, expecting the patronage of the better classes, these men were soon compelled to direct their energies in another direction, for the cheapness of rubber plates had given its advocates a lever to lift the public mind, and a mania was created to have teeth extracted in order to have a cheaper set. A new set could be had for less money than it required to fill and put in order their natural ones, and money being in one side of the scales and brains in the other, the brains proved to be the lightest ; so the teeth would be extracted

on the same principle that if your head aches cut it off; or, if your finger was sore cut it off and put on a wooden one, instead of sensibly curing it. I mention these facts to show how slow the public generally are to find out about the merits of any inventions or improvements, unless it happens to be something where there is a saving of money, then they have no doubt about it. The pecuniary inducements supercede all other arguments, and as a rule they fall into the hands of a class of men who care nothing for the interests of their patrons, but simply the paltry sum they receive for the injury they have done their victims; and they argue loud and long against anything of merit, where more brains and skill are required than they have, to perform the same. Notwithstanding all the influences that have been brought to bear to retard the progress of dentistry and keep it from reaching a higher degree of excellence, it still continues to advance, and nothing can arrest its progressive march. All improvements for the benefit of mankind have been compelled to contend against the current. It is much easier to float with the stream, but one thing is certain, that if old methods and customs and abuses, either political, religious, or in the various ancient superstitious customs, had never been opposed they would have been perpetuated with all their ignorance and errors.

## Strange, but True.

It is a lamentable fact that the restless activity of original thought and inquiry, as well as inventive ingenuity and mechanical genius, that has marked the progress of Dental Science the past few years, has now the same form of resistance and discouragement that it has had to contend with in the earlier and less civilized eras of human progress. The more valuable the discovery, the stronger the opposition to its practical realization ; the more useful the improvement, the more stubborn the resistance to its adoption. The self-same egotism that has ever opposed all departures from the old established methods and customs, still exists, and the beaten paths of our predecessors seemingly must not be forsaken, even though other paths leading to better and fairer fields are visible. However strange this may seem, it is nevertheless a fact. Then, again, the rugged road of scientific inquiry, so forbidding to ordinary courage, so trying to ordinary patience, and so seldom travelled with the devotion and determination necessary to reach a height where the seed and bud of promise open into the flower of success. So long and determined has been this resistance to progress that few have had the courage to face the wind and tempest of abuse and the storm of opposition that awaits them. Men of great mechanical genius, of

rich and rare endowments in music, sculpture, and all the fine arts, have died broken-hearted before the public were aware of the worth that lay in their work. This seems to have been an innate condition from the earliest history of civilization to the present time, that the mass of humanity have given organized opposition to every discovery and to every invention that was of intrinsic value, for many, many years before giving it final approval and adoption. When Galileo first discovered that the world moved on its axis, instead of the sun revolving around our planet, he was compelled under the penalty of being beheaded, to retract, notwithstanding he knew that his statement was an astronomical fact. Such was the generosity with which an appreciative public received the most valuable and important announcement the world ever had. How great must have been his surprise for this abuse offered him for his valuable service. As extraordinary as it may seem, it is but a little over two hundred years since the circulation of the blood was discovered. This great physiological discovery was made, as the reader is probably aware, by Dr. W. Harvey, an eminent physician of London. So strong was the force of prejudice, and so difficult the remuneration of preconceived opinion, that instead of receiving a wreath of immortal glory from his professional brethren for this brilliant contribution to the scientific treasures of mankind, he was made by them the object of personal persecution so bitter

and so violent that he was obliged to retire to an obscure corner of London, and finally lost nearly all of his practice. In his matchless history of England, Hume remarks that no physician in Europe who was forty years of age at the time, ever adopted Harvey's theory of the circulation. Yet where is the physician with any pretension to professional intelligence, who doubts that theory to-day?

It is said that in the New England States, in the primitive eras of our history, in carrying the historic mill bag of wheat on horse-back, the wheat was placed in one end of the bag, and weights of rock or stone of precisely corresponding avoirdupois were made to occupy the opposite end to effect a balance, so that double the pressure of wheat weight was brought to bear on the horse's back, all of which was unfair to the horse. This aboriginal custom had long prevailed, and when a young man of a scientific turn of mind had the audacity to divide the grain and so make it finally balance of itself, he was called to an account for this overt act of irreverence of the customs of his fathers, for this rude departure from the old established way. The boy tried to explain the philosophy of dividing the grain, by saying it was economy of horse force; that by this plan but half the original burden need to be carried. The explanation was not satisfactory, and the boy had to be duly punished for his irreverent originality, for doing things by a plan not



endorsed by his ancestors. This story always seemed to me to be rather far-fetched, but recently, while traveling in the semi-barbaric latitudes of Mexico, I actually saw the stone balance used on one side of the horse to balance the grain. This presents a doubtful tradition in the form of authentic fact.

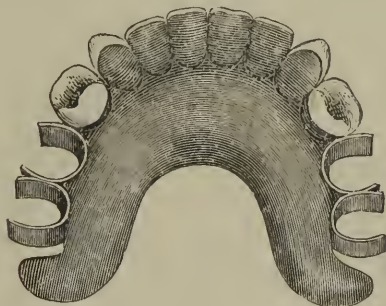
It has been further stated that when the horse became very tired, the man riding the horse with the bag of grain in front of him, would put the grain on his own shoulders, thereby relieving the horse entirely—in his mind. This simply illustrates how some people reason.



## **Objections Raised to Low's New Method.**

Some six years have now elapsed since this method was first brought into use, and ample time has already passed to note the objections raised against its use. I propose in this article to give them to the public, and let the readers judge for themselves. One of the first objections raised, and set up as a reason that the method should not be worn, is that the bands will wear out the teeth. Remember, this supposition is made without any actual experience, but used as an argument to keep back the introduction of this new kind of work. Then, again, those who raised these objections are ignorant of the principle upon which these teeth are attached in the mouth, and knowing that the old-fashioned clasp plate, put in with gold and extending part way around the teeth, with the entire pressure on the gum, did wear out the teeth, they take it for granted, without any knowledge upon the subject, that these bands wear the teeth. Let us examine the difference between the use of clasps to attach teeth and teeth attached with a band. In the following cut we have the clasp plate spoken of.

You will see by this that the pressure is resting on the gums, with these hooks or spring clasps clinching the natural tooth. What is the result? Let us see. B is the plate resting on the gum, where all the pressure is brought to bear when biting on

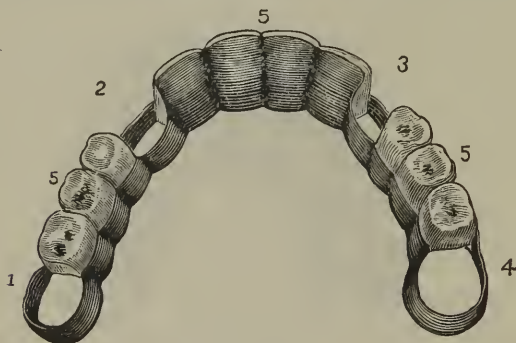


Cut No. 1.

the teeth. What is the result? The gums being soft, pressure upon the false teeth causes the clasp to move up and down on the natural tooth; by pressure in biting, or closing the teeth together, the gums beneath, which are soft, give; and as soon as the pressure is relieved, by opening the mouth, they come back to their original position. These movements are constantly going on, and every movement of these clasps which clinch the teeth causes the tooth to become sensitive; so much so, that the teeth are lost in a short time by a large portion of the wearers.

We have now had a description of the clasp plate

proper that has been in use for the past forty or fifty years, and we will now examine Low's Method and see whether there is a possibility of injuring the teeth by wearing the teeth, as claimed. The following cut represents a case of Low's New Method ready for permanent attachment. 1, 2, 3 and 4 repre-

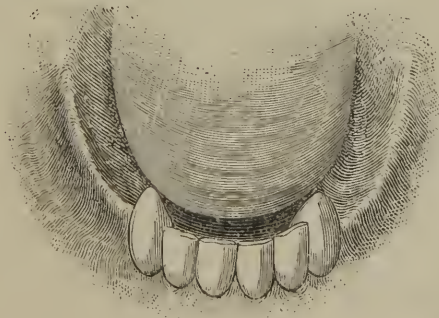


Cut No. 2.

sent the continuous band that slips over the tooth, and which is first made to perfectly fit the tooth attached to. The band is filled with cement and driven on, and becomes a permanent, immovable fixture. Upon reflection any person can see the difference. Remember, the strength of my attachment upon each tooth attached is so strong that no more pressure can be brought to bear on the gums than on the tooth; and, at the same time, the bands cannot move up or down on the tooth, but are perfectly firm and water-tight.

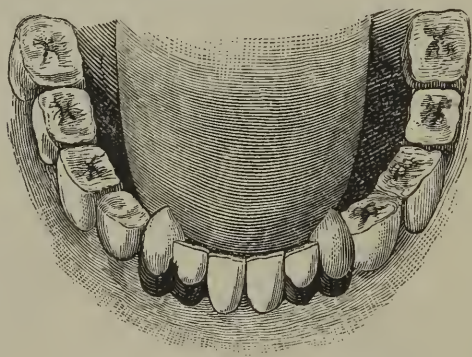
What is the next objection raised? They tell

you that it is impossible to attach a fixture in the mouth without its becoming filthy. This statement would be a fact if you should attach a plate made in the ordinary way, because food would accumulate under the plate, as the motion up and down gives room for the accumulation to deposit. Now, then, suppose you have no plate, but attach from your bands, as seen in cut No. 2, the teeth with no plate under them, with no rest on the gums, bringing the teeth at the outer point or labial side so near that it looks as though it grew out of the gum; but it does not actually touch the gum, so that everything is free for rinsing; or a brush reaches every point, and nothing can be detained, as there is nothing to hold it there—not near as much as there is between the natural teeth. This is one condition. Now, then, suppose you lay the thickness of a case knife-blade which perfectly fits the shape of the gum where a long span or a number of teeth are to be put in between two natural teeth; or, suppose you want to put in two teeth back of the teeth, like the following cut.



No. 3. Cut of lower jaw before the teeth are attached.

This knife-blade thickness is soldered to your bands and arranged so that when the bands are driven down a sufficient pressure is brought to bear so that nothing can possibly get under it, and the bands being held there by the teeth no pressure can possibly raise it or allow any accumulation to gather under the fixture.



Cut No. 4, after teeth are attached.

I do not say they will not become filthy in some people's mouths. I am aware that they will become filthy in many persons' mouths. The same persons would allow their natural teeth to become filthy; and, if wearing a plate, that also becomes filthy. Some people go around with dirty faces and hands, but that does not prove that soap and water will not keep them clean. I have thousands now wearing teeth on my method that have been wearing them for years; they keep them clean, and have no more trouble than in keeping their natural teeth clean.

Others among the dental profession have said that this was no new invention—that they had used it thirty years ago. This is false ; and to back my statement I leave this as a standing offer to any dentist that will bring or can produce even a case put in, on the same principle that I put them in, before I introduced the idea, fifty dollars for each and every case, backed up with positive evidence of having been put in before I originated the idea. Here is a chance for some of these hypocrites to make some money and back up their pretensions. Others have said that this was an old German method. This is just as false as the other statement, as I happen to know just what the German method spoken of is, and claim to be posted on each and every method ever used for putting in teeth ; and without spending the time to give an explanation of them, my offer holds good against any and all methods as compared with mine. Some few dentists have raised a great outcry, claiming to have taken out some of my New Method, and say it is a failure. Now, then, there are but a few words that I wish to say in explanation. As any sensible, well-disposed person can see at a glance, that with the amount of this kind of work that I have been doing, with five or six persons to assist, that there would be some failures where parties did not come back to have them regulated, and make any changes necessary ; and more especially so when the party went to some other dentist to have

it looked over, whose interest it would be to make all of it a failure that was possible instead of coming to me. But to lay aside this, and admit they were failures, is it anything strange or out of the common course of events that some failures should occur? If the same dentist will look up his own memorandum and see how many failures he has made in putting in plates, in the same length of time I have been doing this work, or truthfully state how many fillings he has lost out of those he considered the finest, I will compare notes. Now, then, I have been practicing dentistry for the past twenty-eight years, and I am familiar with the work of all the better class of dentists, not only in Chicago, but all over the United States, and I would pay a premium to see the dentist that never had a failure; and I will encompass any and all branches of business. I will put up five hundred dollars, or a larger sum, to accommodate the parties doing so much blowing and lying, in any respectable parties' hands, and every case put in by him on plates and all of mine on the process shall be booked daily, with name and number, keeping an accurate account of both for six months or a year, and the one that has the least failures shall take the money. I will state, right here, that of all the different kinds of work I have ever done, I have had less failures and better satisfaction in putting in my process work than any other work I ever did or have ever seen done by

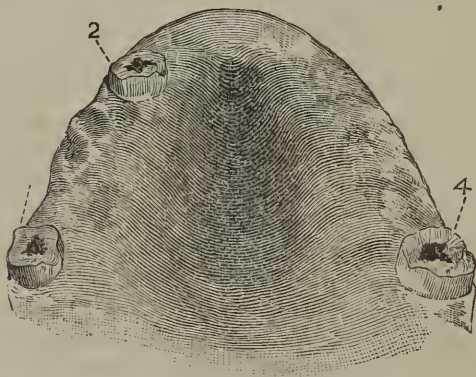


other dentists, and all I have to say about taking out this or that case is, that I take out fifty of their plates and put in my method, where they will find opportunities to remove one of mine, all their libelous statements notwithstanding.

All I wish to say in conclusion is, that this is a movement towards preserving the natural teeth and natural conditions which no power upon earth can replace after they have once been removed. I expect the lies and slander of all unprincipled and interested parties to be heaped upon me until the venomous spite shall finally be swallowed up by the voices of the many who have been made happy. Yes, if I could never again render my services to assist suffering humanity in preserving the most essential condition to health, which is the natural condition of the mouth, by giving teeth that can masticate food—teeth that are not supported by covering the mucous membrane and injuring digestion—I should feel already well paid for my labor, so many thanks have I received. I feel sorry for those who have not the courage to investigate for themselves, but are satisfied to take the advice of hearsay, coupled with their own imagination. All I ask is an investigation by all good, sensible people, and that the truth shall prevail.

## Explanation to Cuts.

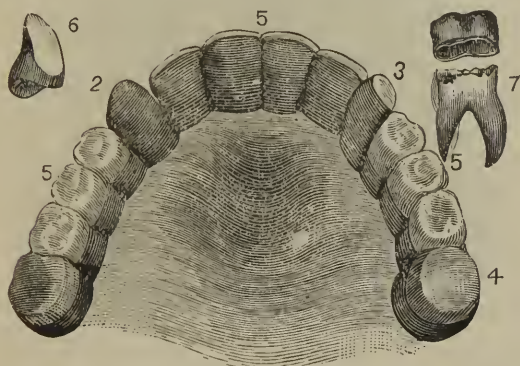
The following cut (No. 5) represents the upper jaw where the teeth have all been extracted but three, and these are badly decayed and broken, but are firm and strongly attached in the jaw. I simply give



No. 5.

these few cuts of difficult cases to show to what extent Low's Method can be used. From these three roots a full upper set of teeth can be attached. The roots are prepared the same as for crowning, not the ordinary way of crowning, but the way I prepare all my roots where the nerves are dead; that is with a hollow tube, so that in case any trouble should arise from whatever cause to produce

inflammation or ulceration of the root, I can open the tube, treat and stop the ulceration at once without removing the attachments or interfering with the use of the teeth, and again stop the tube. The trouble may never occur again, but in case of any such contingency arising, all pains can be at once relieved. My manner of adjusting these crowns would not be interesting to the general reader, but to make the subject thoroughly understood we call the attention of the reader to cut No.

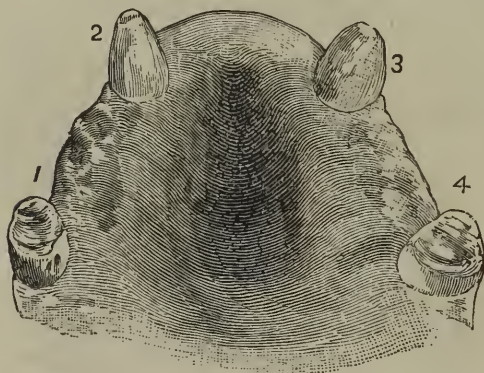


No. 6.

6, which shows the same mouth as cut No. 5 after the teeth have been attached, with the crowns. Nos. 6 and 7 are the crowns as they looked before being united, together with the false teeth which are numbered 5 all the way around, Nos. 1, 2 and 4 being the crowns after having been arranged in position and

attached. These attachments or crowns are put on with a cement the same as bands, but in all such long spaces, a perfectly fitting, very narrow rest extends the whole distance between the teeth, on the gums, which is held and bears just hard enough to prevent any food from possibly getting under the attachment. This leaves the mouth easier to keep clean than when the natural teeth are intact.

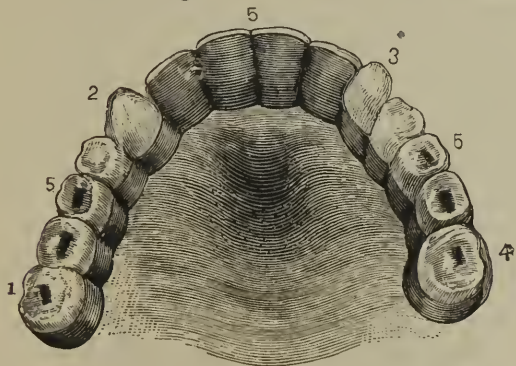
The following cut (No. 7) simply shows another



No. 7.

upper case, where four perfect natural teeth are intact, Nos. 1, 2, 3 and 4 representing the teeth. They are attached in the same manner as the last, with the exception that these are attached with bands instead of crowns. Before I go farther, I will, for the benefit of those who do not know what is meant by a crown, state that a crown is supposed

to be a broken tooth restored to its original shape by gold attachment. It may be all gold, or the outer surface (labial side), which would be seen, can be of porcelain, perfectly representing the natural tooth. The following cut (No. 8) is the same mouth



No. 8.

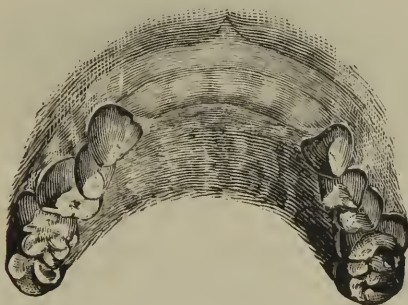
as No. 7 after the teeth are attached, 1, 2, 3 and 4 being the natural teeth with the bands attached, while Nos. 5, 5, 5 are the false teeth inserted and attached to bands 1, 2, 3 and 4, so that by this method one tooth, if lost, can be restored; or if unfortunate enough to have lost nearly all the teeth, they can be replaced without plate and without being obliged to have the roots extracted where they are firm in the jaw. There is no longer any doubt about being able to preserve roots firmly attached in the jaw, as years of experience have proven. I have there-

by demonstrated this fact not only to the satisfaction of myself, but to thousands of patients who can testify to the fact and their usefulness. In my office, where from five to seven of us are busily employed, we do not extract, on an average, one tooth a week, as any of my help will testify. This alone speaks for itself as to the fact stated that all roots firm in the jaw need not be extracted, but can be made useful, much more so than teeth put in in the ordinary way. It is a disgrace to the profession that steps have not been taken to prevent this wholesale extraction of teeth, which are extracted simply for a paltry sum of money they receive in trying to put in a substitute that is poor at the best, and nine-tenths of them are of no use to the wearer whatever. All that is needed is to have these facts set before the public, and it is the duty of the dental profession to see that this is done in a proper manner.



### Explanation of Cuts—Continued.

The following cuts represent a case of four front teeth, cut No. 9 being the mouth before having been operated upon. The bands for such a case I generally fit to the eyeteeth, but should it be necessary on account of articulation or otherwise, the adjacent bi-cuspids can be used, but for the four front teeth, two bands, when properly fitted and

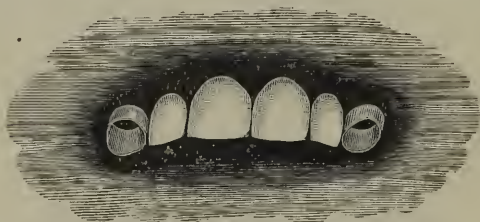


No. 9.

cemented, will be sufficiently strong. If one or both bi-cuspids are to be supplied, one band fitted to the first molar, and all attached together, makes a very strong and satisfactory case. In all cases of one, two, three or four teeth in the front of the mouth, I do not advise rests on the gums, but the teeth must be plain teeth, and backed as described



on page 143. My material for backing teeth is made of about twenty per cent. platinum, or what is easier to get at, take any amount needed of platinum, add gold enough to unite the whole in mass, twenty per cent. being about all that it will take up, roll out and cut up in square pieces and use on the thin platinum previously burnished over the tooth where you wish it to flow. Use the same as solder. Flow enough so that when your teeth are arranged and soldered together your strength is sufficient.



No. 10.

After carefully cooling the teeth bevel the gold backing so that the lower portion next to the gum there is nothing but the tooth, the tip of which just touches the gums. Solder only two-thirds of the way down the teeth when soldering your teeth together, leaving space between the teeth for cleaning; in this way with highly polished surface on the inside and easy access to every part with a brush, no fear need be apprehended in keeping clean any more than with the natural teeth. To give additional strength to the case strips of gold can be fitted between the



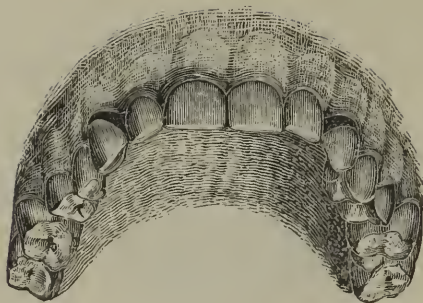
teeth before soldering if necessary, or, what is better, gold foil packed closely in between all the teeth to be soldered, and a large amount of solder flown thoroughly over the whole, to give strength..

Cut number 10 is the case ready to be adjusted showing the bands, which must be 27 stub gauge, for four teeth coin gold.



No. 11.

Cut number 11 shows the inside of the same case except the bands after the teeth have been soldered. I mention all of these conditions in detail simply to show that the principle of my method is right, although parties attempting to steal the same, that have had but little experience, have put in many cases in and about New York, and other places, in a manner that gives no credit to the operator or the principle, were it the best results that could be obtained, but this is not the case. No case of bridge work can be done with gum teeth and prove satisfactory, on account of the impossibility to keep them clean. There is too much surface with no open gateways between the teeth. A short gum tooth can, however, be used, but it must be made to fit the gum perfectly and held by the attachment close to the gum so that there is no possibility of any accumulation depositing under the case. •



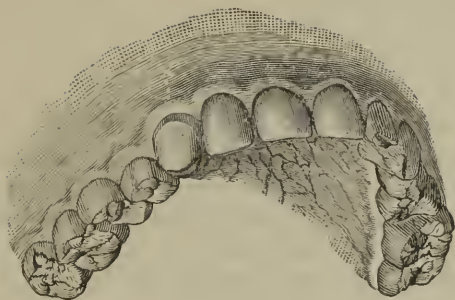
No. 12.

Cut number 12 shows the teeth after having been attached with the bands burnished after beveling, thereby resembling a margin filling.



No. 13.

Cut number 13 shows how one tooth is made, with stay opposite band, this being ready for adjusting, and cut number 14, is the same tooth after having been adjusted. Dotted line shows the band on the labial side, the stay rests on the adjoining natural tooth, which is the perfect shape of the tooth it rests against. A very short one is only needed, this is used instead of using two bands where stay will answer the same purpose, the stay should be longest up and down on the tooth instead of around. A bi-cuspid or molar can many times



No. 14.

be inserted in a similar manner having the rest, however, on the crown of the tooth next to the space to be supplied instead of on the side, for here the pressure is down in masticating. In the case of a front tooth, the pressure is out. These should be put in as bridge work. If over three teeth in a case are to be supplied, on either side, above or below, it is desirable to equalize the rest on the gums and teeth as described.

The beginner must not be disappointed at failures, for to properly adjust this class of work, skill, patience and perseverance is needed. With these three qualities combined, success will soon follow, and he will soon surprise himself to the gratification of his customers.

## References.

I publish a few of the many business men and citizens of Chicago and vicinity using these teeth :

We, the undersigned citizens of Chicago and vicinity, have used teeth inserted on Dr. Low's new method for some time and with the greatest satisfaction, and take pleasure in recommending them to you.

They are not only useful for mastication, but do away with the usual incumbrance of a plate over the roof of the mouth, and are as easily kept clean as the natural teeth, affording us so much satisfaction that it seems almost as though our natural teeth had been restored to us again. Signed:

A. A. McDonell.....219 South Sangamon st.  
A. C. Morse.....223 West Madison st.  
N. R. Patterson.....Times office.  
W. G. Ferguson.....2950 Indiana ave.  
J. B. Keeler.....608 Washington Boulevard.  
J. H. Clough.....460 West Randolph st.  
Alvaro Ladd...116 East Washington st., Room 14.  
Mrs. E. Washburn.....2438 Michigan ave.  
Mrs. D. K. Hill.....1222 Michigan ave.  
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## To the Public.

I now close the description of this new work known as Low's New Method, and in doing so I wish to state that I have, like most other inventors, been misrepresented, other parties setting themselves up as the originators, the inconsistency of which is very discernible to the most dim and incomprehensible minds that are familiar with the circumstances. I am seeking and presenting nothing but facts, and will soon be able to present them in an indisputable manner. I expect to be misrepresented by jealous and unscrupulous persons whose interests are at stake; but to be betrayed by those in whom you had the utmost confidence, and one I have for many years, through sympathy, assisted in a brotherly manner and at the same time brought up to a higher grade of usefulness to himself and others, through which he became self-sustaining, this, I say, far overreaches my comprehension. Notwithstanding all the treachery thus used for many years in trying to undermine me and build themselves up, which was unknown to me until within the past eight months, the facts still remain and will soon dawn upon the would-be destroyer, in all their deserved fury.

### **To Dentists.**

I am now prepared to give instructions and issue licenses to dentists. Such parties will be furnished with certificate with my signature attached, and none will be granted license until they have become proficient. Any person can see the benefit derived by being at once brought in contact with established principles wrought out by constant application and experience. For further particulars parties can call, or address me at 164 Dearborn street, First National Bank Building, Chicago, Ill.

DR J. E. LOW.









